

ANNUAL REPORT
of the
DEPARTMENT *of* SURGERY
1964



THE NEW YORK HOSPITAL-CORNELL MEDICAL CENTER

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ANNUAL REPORT

of the

DEPARTMENT OF SURGERY

The New York Hospital-Cornell Medical Center

1964

by FRANK GLENN, M.D.

S. W. MOORE, M.D.

BJORN THORBJARNARSON, M.D.

To the President of the Board of Governors of the Society of The New York Hospital and the President of the Board of Trustees of Cornell University:

It is a pleasant obligation to render to you the annual report of the Department of Surgery for 1964. It is an account of what we have attempted and what we have accomplished as a major clinical department of a large medical center. The core of our activities is patient care. This is enhanced by teaching in all areas that encompass it. Progress in these pursuits is dependent upon research that brings forth the new and improves the established, deleting the unnecessary. This factual presentation indicates but does not relate the deep dedication of those who participate in all that is done.

GRADUATE TRAINEES

GENERAL SURGERY

Surgeons (2)

CHARLES K. MCSHERRY.....	May 1, 1963 to Apr. 30, 1964
JULIUS CONN, JR.....	Sept. 1, 1963 to Aug. 31, 1964
ROGER R. ECKER.....	Jan. 1, 1964 to Dec. 31, 1964
ARNOLD G. DIETHELM.....	May 1, 1964 —
THOMAS M. FULCHER.....	July 1, 1964 —
RALPH J. LEWIS.....	Sept. 1, 1964 —

Surgeons (1)

ARNOLD G. DIETHELM.....	May 1, 1963 to Apr. 30, 1964
THOMAS M. FULCHER.....	Sept. 1, 1963 to June 30, 1964
RALPH J. LEWIS.....	Jan. 1, 1964 to Aug. 31, 1964
ARTHUR R. BEIL, JR.....	May 1, 1964 to Dec. 31, 1964
JOHN M. PITMAN, JR.....	July 1, 1964 —
MELVIN G. LUND.....	Sept. 1, 1964 —

Assistant Surgeons

JOHN V. BANTA.....	July 1, 1963 to June 30, 1964
BRYANT BARNARD.....	July 1, 1963 to June 30, 1964
EUGENE S. FLAMM.....	July 1, 1963 to June 30, 1964
JULIAN T. HOFF.....	July 1, 1963 to June 30, 1964
DANIEL G. KELLY.....	Jan. 1, 1964 to June 30, 1964

MELVIN G. LUND.....	July 1, 1960 to Aug. 31, 1964
WILLIAM P. McCANN.....	July 1, 1963 to June 30, 1964
ROBERT J. NEVIASER.....	July 1, 1963 to June 30, 1964
JOHN M. PITMAN, JR.....	July 1, 1960 to June 30, 1964
NICHOLAS A. ROMAS.....	July 1, 1963 to June 30, 1964
JOHN H. SEWARD.....	July 1, 1963 to June 30, 1964
WILLIAM A. WHITE.....	July 1, 1962 to June 30, 1964
DONALD W. ABEL.....	July 1, 1963 —
DAVID G. ANDERSON.....	Nov. 1, 1964 —
JAMES W. ASAPH.....	July 1, 1963 —
ROBERT B. CAPLAN.....	July 1, 1964 —
CHARLES W. CARPENTER.....	July 1, 1964 —
ARMAND F. CORTESE.....	July 1, 1959 to June 30, 1960
	July 1, 1962 —
RICHARD M. EHRlich.....	July 1, 1964 —
SVERRIR O. GEORGSSON.....	July 1, 1964 —
BRENT J. HOLLERAN.....	July 1, 1961 to Jan. 5, 1962
	Oct. 1, 1963 —
O. ADRIAN JOHNSON.....	July 1, 1962 —
WALTER J. LOEHR.....	July 1, 1964 —
J. RALPH MACFARLANE.....	July 1, 1961 —
J. BRUCE MCGOVERN.....	July 1, 1960 —
RICHARD H. McSHANE.....	July 1, 1964 —
HOLLAND V. MOORE.....	July 1, 1964 —
S. KIRBY ORME.....	Nov. 1, 1963 —
BENJAMIN S. PARK, JR.....	July 1, 1962 —
HERBERT S. PERRY.....	July 1, 1964 —
J. RICHARD REES.....	July 1, 1963 —
DWIGHT M. ROST.....	July 1, 1964 —
ARTHUR M. SMITH.....	July 1, 1964 —
WILLIAM T. STUBENBORD.....	July 1, 1963 —
KENNETH G. SWAN.....	July 1, 1961 —
GARRETT R. TUCKER III.....	July 1, 1964 —
GEORGE M. WATKINS.....	Feb. 21, 1964 —
DEAN H. WEAVER.....	July 1, 1962 —
SETH M. WEINGARTEN.....	July 1, 1964 —

Interns

July 1, 1963 to June 30, 1964

ROBERT B. CAPLAN
CHARLES W. CARPENTER
ROBERT E. CLINE
RICHARD M. EHRlich
WALTER J. LOEHR
RICHARD H. McSHANE
HOLLAND V. MOORE
S. KIRBY ORME
to Oct. 31, 1963
HERBERT S. PERRY
JOHN R. RICHARDSON, JR.
DWIGHT M. ROST
ARTHUR M. SMITH
GARRETT R. TUCKER III
SETH M. WEINGARTEN
KUERT WIENEKE, JR.
STEVEN L. WOODROW

July 1, 1964 to June 30, 1965

JERRY L. ACOSTA.....Cornell
BERNARD H. BERNE.....New York University
RICHARD J. COBURN.....McGill
JOHN W. COLEMAN.....Georgetown
JOHN M. COLETTI, JR.....Cornell
HOWARD M. EISENBERG.....State Univ. of New York
JAMES E. FINN.....Georgetown
NIKOLAS GOLOSOW.....Cornell
ROBERT J. HEILEN.....New York University
RICHARD M. HOOK.....New York University
KENNETH F. MATTUCCI.....Bowman Gray
BRIAN G. MISCALL.....Cornell
WILLIAM P. O'GRADY.....State Univ. of New York
JOHN M. PARSONS.....Jefferson
PHILLIP W. THIEMAN.....Northwestern
HOWARD D. ZIPPER.....State Univ. of New York

Neurosurgery

JAMES W. PREUSS, Surgeon.....July 1, 1963 to June 30, 1964
Assistant Surgeon.....July 1, 1961 to June 30, 1963
RICHARD M. BERGLAND, Surgeon.....July 1, 1964 —
Assistant Surgeon.....July 1, 1962 to June 30, 1964
JAMES D. PROKOP, Assistant Surgeon.....July 1, 1963 —
WILLIAM A. WHITE, Assistant Surgeon.....July 1, 1964 —

Ophthalmology

GEORGE P. SANTOS, Surgeon.....	Jan. 1, 1964 to June 30, 1964
Assistant Surgeon.....	July 1, 1961 to Dec. 31, 1963
RICHARD A. BARAGRY, Surgeon.....	July 1, 1964 to Dec. 31, 1964
Assistant Surgeon.....	July 1, 1962 to June 30, 1964
JOHN T. FLYNN, Assistant Surgeon.....	Jan. 1, 1964 to June 30, 1964
	Aug. 1, 1961 to June 30, 1963
JOHN T. FISHER, Assistant Surgeon.....	July 1, 1962 to Dec. 31, 1964
KENNETH R. BARASCH, Assistant Surgeon.....	July 1, 1963 —
PHILIP H. ZWEIFACH, Assistant Surgeon.....	July 1, 1963 —
RICHARD A. DAVIDSON, Assistant Surgeon.....	July 1, 1964 —
ROBERT V. DAVIS, JR., Assistant Surgeon.....	July 1, 1964 —

Oral Surgery

ROBERT S. SIEGEL, Assistant Oral Surgeon.....	July 1, 1963 to June 30, 1964
THEODORE E. TREBOWSKI, Assistant Oral Surgeon.....	July 1, 1963 —
THOMAS M. DARRIGAN, Assistant Oral Surgeon.....	July 1, 1964 —
EDWARD D. SPIRE, Intern.....	July 1, 1963 to June 30, 1964
CHARLES B. ABELSON, Intern.....	July 1, 1964 —

Orthopedics

EUGENE M. LANCE, Surgeon.....	Jan. 1, 1964 to Mar. 31, 1964
Assistant Surgeon.....	Apr. 1, 1962 to June 30, 1962
DAVID B. LEVINE, Surgeon.....	Apr. 1, 1964 to June 30, 1964
Assistant Surgeon.....	July 1, 1962 to Sept. 30, 1962
HENRY H. SPRAGUE, Surgeon.....	July 1, 1964 to Sept. 30, 1964
Assistant Surgeon.....	Oct. 1, 1962 to Dec. 31, 1962
JOEL B. ADLER, Surgeon.....	Oct. 1, 1964 to Dec. 31, 1964
Assistant.....	Jan. 1, 1963 to Mar. 31, 1963
ALAN PAVEL, Assistant Surgeon.....	Jan. 1, 1964 to Mar. 31, 1964
DONALD C. STAHL, Assistant Surgeon.....	Apr. 1, 1964 to June 30, 1964
ALLAN R. DUNN, Assistant Surgeon.....	July 1, 1964 to Sept. 30, 1964
LLOYD A. MORIBER, Assistant Surgeon.....	Oct. 1, 1964 to Dec. 31, 1964

Otolaryngology

ROGER TELMOSSE, Surgeon.....	July 1, 1963 to June 30, 1964
PHILIP A. ZETTERSTRAND, Surgeon.....	July 1, 1963 to June 30, 1964
REAL SASSEVILLE, Surgeon.....	July 1, 1964 —
Assistant Surgeon.....	July 1, 1962 to June 30, 1964
JOSEPH W. GRAY, Assistant Surgeon.....	July 1, 1963 to June 30, 1964
AURELIEN CARRE, Assistant Surgeon.....	July 1, 1964 —
FERDINAND LAVENUTA, Assistant Surgeon.....	July 1, 1964 —
RAYMOND ST. PIERRE, Assistant Surgeon.....	July 1, 1964 —
JOHN H. SEWARD, Assistant Surgeon.....	July 1, 1964 —

Plastic Surgery

LEON I. BLOCK, Surgeon.....	July 1, 1963 to June 30, 1964
Assistant Surgeon.....	July 1, 1962 to June 30, 1963
NORMAN E. HUGO, Surgeon.....	July 1, 1964 —
VINCENT M. HOGAN, JR., Assistant Surgeon.....	July 1, 1962 to June 30, 1964
GEORGE McL. LACY, Assistant Surgeon.....	July 1, 1964 —

Urology

KAMAL T. HEMADY, Surgeon.....	July 1, 1963 to June 30, 1964
Assistant Surgeon.....	July 1, 1961 to June 30, 1963
EDWARD C. MUECKE, Surgeon.....	July 1, 1964 —
Assistant Surgeon.....	July 1, 1961 to June 30, 1962
	July 1, 1963 to June 30, 1964
GERALD T. COOK, Assistant Surgeon.....	July 1, 1962 to June 30, 1964
DANIEL G. KELLY, Assistant Surgeon.....	July 1, 1964 —
WARREN W. KOONTZ, JR., Assistant Surgeon.....	July 1, 1962 —
RICHARD G. MIDDLETON, Assistant Surgeon.....	July 1, 1963 —
ISAM SAKATI, Assistant Surgeon.....	July 1, 1963 —
WILLIAM S. TUNNER, Assistant Surgeon.....	July 1, 1964 —

ADMISSIONS, OPERATIONS AND DEATHS—1964

Pavilion Service	Admissions	Operations	Deaths			Autopsies		
			Oper.	Nonop.	Total	Yes	Per Cent	No
General Surgery.....	1,608	1,648	52	4	56	45 (4 M.E.)	80.4	11
Thoracic Surgery.....	131	147	4	—	4	4 (1 M.E.)	100.0	—
Pediatric Surgery.....	441	409	9	—	9	9 (2 M.E.)	100.0	—
Fracture.....	226	219	8	—	8	4 (3 M.E.)	50.0	4 (3 M.E.)
Neurosurgery.....	252	366	11	2	13	12 (1 M.E.)	92.3	1
Ophthalmology.....	549	565	—	—	—	—	—	—
Oral Surgery.....	81	78	—	—	—	—	—	—
Otolaryngology.....	690	752	1	—	1	—	—	1
Plastic Surgery.....	273	372	3	—	3	2 (2 M.E.)	66.7	1
Urology.....	687	487	5	3	8	6	75.0	2
	4,938	5,043	93	9	102	82 (13 M.E.)	80.4	20 (3 M.E.)
Private Service								
General Surgery.....	1,953	1,838	44	19	63	46 (1 M.E.)	73.8	17
Thoracic Surgery.....	98	85	6	2	8	6 (1 M.E.)	75.0	2
Pediatric Surgery.....	158	167	3	—	3	3	100.0	—
Fracture.....	364	246	3	2	5	5 (5 M.E.)	100.0	—
Neurosurgery.....	394	523	15	4	19	10	52.6	9
Ophthalmology.....	825	843	—	—	—	—	—	—
Oral Surgery.....	39	38	—	—	—	—	—	—
Otolaryngology.....	694	673	—	—	—	—	—	—
Plastic Surgery.....	520	690	3	—	3	2 (2 M.E.)	66.7	1
Urology.....	1,168	770	7	6	13	9	69.2	4
	6,213	5,873	81	33	114	81 (9 M.E.)	71.2	33
Semi-Private Teaching Service								
Surgery I.....	1,035	893	22	2	24	23 (2 M.E.)	95.8	1
	12,186	11,809	196	44	240	186 (24 M.E.)	81.7	54 (3 M.E.)

GENERAL SURGERY

Admissions to the general surgery pavilions numbered 1,608. There were 1,648 operations and 52 post-operative deaths; also four deaths not associated with operation. Autopsies were performed on 80.4 per cent of deaths. The semi-private teaching service admitted 1,035 patients. There were 893 operations, 22 operative deaths and two deaths not associated with operation. Autopsies were performed on 95.8 per cent of the deaths. On the private general surgical service, there were 1,953 admissions and 1,838 operations; 44 operative deaths and 19 deaths not associated with operation. Autopsies were performed on 73.8 per cent of the deaths.

Thoracic and Cardiovascular Surgery

On July 1st a thoracic surgery unit with facilities for 28 patients was established on the 11th floor of the hospital. Immediately in charge of this unit are Dr. Cranston W. Holman and Dr. George R. Holswade. Patients with cardiac disease and pulmonary disease requiring surgery are now concentrated on this service and renovation of the floor has been performed to make it suitable for pre- and post-operative care. The house staff serving on the thoracic service consists of a senior resident who has finished training in general surgery, three assistant residents and an intern, and is part of the general rotation of the house staff members during the training in general and thoracic surgery. A wide range of thoracic operations were performed during the year. The number of open heart procedures continues to increase. This year 69 were performed, including 32 artificial valve replacements. Closed mitral valvulotomy continues to be the safest operation amongst cardiac procedures. The total figure in the mitral commissurotomy series reached 627, with only one operative death in the last 200 cases. The use of artificial cardiac pacemakers has increased rapidly. Thirteen were inserted during the year, with one operative death in a group averaging 70 years of age. New types of procedures are continually being introduced for the correction of cardiac ailments. Among these were correction of supravulvular aortic stenosis, subvalvular hypertrophic aortic stenosis, excision of myxoma of the right atrium and permanent implantation of an intravenous cardiac pacemaker.

An extensive joint study by the Surgical and Medical Pulmonic Laboratories is being carried out on patients with pulmonic disease, the object being to define more clearly what constitutes a poor risk patient for pulmonic resection. Various parameters are being measured pre- and post-operatively, such as arterial blood gas and PH, lung volume, lung compliance, gas diffusion and distribution of ventilation. Special emphasis has been placed on patients over 65 years of age and already these studies have led to the more frequent use of tracheostomy after pulmonic resections in the elderly.

Trauma and Fractures

The combined fracture service of The New York Hospital and the Hospital for Special Surgery continues under the direction of Dr. Preston A. Wade. A total of 226 pavilion patients were admitted during the year and 219 operations carried out with 8 deaths. Patients admitted to the private fracture service numbered 364 and 246 operations were performed with three operative and two post-operative deaths. A study was initiated to begin weight bearing in the immediate post-operative period on selected patients with intracapsular fractures of the hip. It is hoped this study will reflect improved methods of reduction and internal fixation of these fractures.

Numerous studies were begun and completed during the year. Drs. Joel Adler, John Doherty, Paul Skudder and Preston Wade completed a study on adult forearm fractures treated on the combined services. Dr. Skudder completed a study and prepared an exhibit on the use of human tetanus immune globulin in the prevention of tetanus. Drs. Preston Wade, Paul Skudder, Rolla Campbell and Henry Sprague have begun a retrospective study of all intracapsular fractures of the hip treated on the fracture service. Drs. Eugene Lance, Edward Carey and Preston Wade completed a study on fractures of the os calcis. Drs. Kirk Watson, Rolla Campbell and Preston Wade completed a study of the treatment and complications of adult subtrochanteric fractures of the hip. Drs. Paul Skudder, Paul Braunstein, James McCarroll and Preston Wade completed a study of concealed hemorrhage due to pelvic fractures. Drs. Rolla Campbell, T. C. Thompson, Eugene Lance and Joel Adler completed a study on open reduction for lunate peri-lunate dislocations of the carpal bones.

Pediatric Surgery

Dr. S. Frank Redo is in charge of the pediatric service. Patients admitted to the pediatric pavilion service numbered 441 and 409 operations were carried out with nine operative deaths. Autopsies were performed on all nine patients who died. There were 158 admissions to the private pediatric surgical service and 167 operations performed with three post-operative deaths.

The pediatric service continued to treat a wide variety of elective and emergency surgical problems in children from prematurity to 14 years of age. These included cardiovascular and gastrointestinal anomalies, as well as thoracic, head and neck and general abdominal conditions. The variety of surgical problems in these children has provided excellent training for the resident staff of surgery and pediatrics and has afforded valuable teaching material for medical students.

NEUROSURGERY

DR. BRONSON S. RAY, Attending Surgeon in Charge

Admissions on the neurosurgical service numbered 646, of which 252 were pavilion admissions and 394 were private. 366 operative procedures were performed on pavilion patients and 623 on private patients. There were 31 deaths, 25 post-operative, 6 non-operative, an operative mortality of 2.8 per cent. Autopsies were performed in 21 of the deaths, a rate of 67.7 per cent.

Investigation of the destruction of the pituitary gland by transphenoidal implantation of radioactive Yttrium has continued. The procedure has been performed on a total of 21 patients, of whom 13 were suffering from diabetes, two from acromegaly, one from Cushing's disease and five from breast cancer.

The total number of surgical hypophysectomies has now reached 728. The series includes 648 patients suffering from cancer, 43 from diabetes, 27 from acromegaly, seven with Cushing's disease and three with exophthalmos.

The use of stereotaxic surgery under the direction of Dr. Howard S. Dunbar has continued. An attempt is now being made to correlate the electrical recordings from the thalamus with the patient's tremor. It is anticipated that by this means it should be possible to insure proper placement of a lesion in the desired location in the thalamus. Investigations have also continued in the use of the isotope encephalogram as an adjunct to the diagnosis of intracranial lesions. The safety of the method in selected cases has been demonstrated and its accuracy is sufficiently good to make the test a valuable aid in diagnosis.

Dr. Russel H. Patterson, Jr., has continued laboratory investigations in the use of deep hypothermia and extracorporeal circulation to obtain a bloodless surgical field and protect the brain. The technique has been modified so that blood is not now necessary to prime the disposable bubble oxygenator and the duration of the procedure has been reduced.

A cooperative study with other university centers on intracranial aneurysms and acute subarachnoid hemorrhage is coming to a conclusion. It is planned to have a statistical study available for publication during the year 1965.

UROLOGY

DR. VICTOR F. MARSHALL, Attending Surgeon in Charge

There were 687 admissions on the pavilion urology service, with 487 operations and eight deaths, three non-operative. Six autopsies were obtained, or 75 per cent. There were 1,168 admissions on the private serv-

ice, 770 operations and 13 deaths, with autopsies obtained in nine, or 69.2 per cent.

The urology service continues its active interest in pediatric urological diseases, as well as the investigation of ureteral reflux both in children and adults. A study of the bony deformity in exstrophy of the bladder was completed during the year in conjunction with the Department of Radiology. Studies of the renal lymphatics are in progress. The urology service has closely cooperated in the renal homo-transplant investigations and, as a result of experience gained therein, accomplished a successful auto-transplantation of a kidney following a severe injury to the ureter. This is the first time such a procedure has been performed in this hospital.

OTOLARYNGOLOGY

DR. JAMES A. MOORE, Attending Surgeon in Charge

During the year there were 1,377 admissions to the otolaryngology service. Of these, 690 were to the pavilion service where 752 operations were performed. There was one operative death. On the private service there were 673 operations and no deaths. The temporal bone bank laboratory continued its work during the year, supported by the Deafness Research Foundation. To date some 21 temporal bones have been received and processed.

OPHTHALMOLOGY

DR. JOHN M. McLEAN, Attending Surgeon in Charge

Admissions on the pavilion service numbered 539, with 565 operations performed. This was a slight decrease from the preceding year. Private admissions were 835, an increase of 11 per cent over the preceding year, with 843 operations performed. There were no deaths.

The cryosurgical approach to retinal detachments, pioneered and developed at this Center, is widely used and freezing techniques are being applied to selected cases of lens extraction and glaucoma and intraocular tumors. Results to date are most encouraging. New surgical approaches have been tried in a small series of cases of coexisting glaucoma and cataract, with generally satisfactory results. Displacement of muscle insertions at the time of strabismus operation has been successfully introduced, with superior results in complicated cases. Clinical research continues to occupy a prominent place in the activities of the division. Study of the effect of extreme cold on ocular tissues has continued. Dr. Edward A. Dunlap is carrying on his long-term evaluation of oculomotor anomalies related to reading difficulties. Dr. Miles Galin has investigated ocular penetration

of a new antibiotic effective against gram negative organisms. The mechanism, physiology and secondary effects of enzymatic analysis with alphachymotrypsin has been studied, demonstrating that short-lived ocular hypertension follows the use of this agent with a concomitant increase in post-operative complications. Methods of preventing this undesirable response are being investigated.

The utilization of radioautography of ocular catecholamines has been initiated. Studies of filtering blebs, kinetics of collagen digestion, central retinal artery pressures and the ocular pharmacology of certain phenothiazines are being carried out.

ORAL SURGERY

DR. GEORGE F. EGAN, Attending Oral Surgeon in Charge

During the first full year in its reconstructed facilities, the Dental and Oral Surgery division had an increase of 1,269 patient visits over the previous year. There were 6,423 patient visits. Inpatient admissions numbered 120 and 116 operations were performed.

A one day seminar in oral medicine was held at the hospital as the initiating course in the postgraduate training program of the newly formed Eleventh District Dental Society. Dr. Stanley Behrman served as Chairman of the First International Conference on Tooth Transplants held at the New York Academy of Medicine in April. Participants included speakers from England and Czechoslovakia, and a second conference is projected for 1966.

A report on the use of penthrane in oral surgery, done with Dr. Alan Van Poznak of the Department of Anesthesiology, was presented before the Society for the Advancement of General Anesthesia in Dentistry. The various techniques for inpatient and outpatient penthrane anesthesia were discussed.

ORTHOPEDICS

DR. ROBERT L. PATTERSON, JR., Attending Surgeon in Charge

During the year 1964, there were 3,125 admissions to the Hospital for Special Surgery. There were 2,190 operations performed, the largest number of operations in one year in the history of the hospital. A further increase in the number of operations performed annually may be expected since on December 1, 1964, the operating room hours were increased from 8 a.m. to 6 p.m. daily, including Saturdays.

Dr. William D. Graham resigned and accepted an appointment as Professor of Orthopaedic Surgery and Chief Orthopaedic Surgeon to the University of Witwatersrand in Johannesburg, South Africa.

Dr. William Cooper accepted the appointment of full-time Director of the Department of Rehabilitation Medicine, a new concept in physical, social, economic and vocational aid to the crippled.

The first annual Philip D. Wilson Orthopaedic Lecture was given during the year, Dr. Jose Valls of Buenos Aires, Argentina, being the speaker.

A Symposium on the Restoration of Function in the Hand, which was sponsored by the Greater New York Chapter of the National Foundation-March of Dimes, was held at the Hospital for Special Surgery in March. Coordinators of the symposium were Dr. Ramsay Straub from the Hospital for Special Surgery and Dr. Herbert Conway from the New York Hospital.

PLASTIC SURGERY

DR. HERBERT CONWAY, Attending Surgeon in Charge

Pavilion admissions to the plastic surgery service numbered 273, with 372 operations, three deaths and two autopsies. On the private plastic surgery service there were 520 admissions, 690 operations, three deaths and two autopsies.

Dr. James W. Smith spent the months of November and December in Bombay, India, working on clinical studies of the blood supply of the peripheral nerves in patients with leprosy and also on problems relating to tendon grafting.

Arrangements have been made for the establishment of a cleft palate workshop and registry. This has been made possible through a generous grant from The Heckscher Foundation for Children. The workshop and registry will enable coordination of information on all cleft palate patients over the last 32 years.

A study of patients who have undergone rhytidectomy revealed that benefits of the procedure are maintained for approximately 10 years, in contrast to earlier teaching that benefits would last approximately three years. Histological studies are being made of the skin of different individuals, age groups and sexes toward the objective of accumulating more information on the aging of the skin.

In collaboration with the Dow Corning Institute for Medical Research, an investigation is underway evaluating silicone products as implant materials in rehabilitation surgery. The value of these materials for implants

has been established by experiments on animals during the past two and one-half years.

ANESTHESIOLOGY

DR. JOSEPH F. ARTUSIO, JR., Anesthesiologist in Chief

Services rendered by the Department of Anesthesiology continue to increase at a steady rate; 300 more anesthetics were administered over the previous year.

Dr. Alan Van Poznak returned to the Department after two years of research in the Department of Pharmacology and has begun work in the anesthesia research laboratory.

Dr. Francis M. Tiers resigned his position to become Director of the Department of Anesthesiology at the Jersey City Medical Center. During the year Dr. Marjorie Topkins completed a five year study on the effect of anesthesia and surgery on the incidence of myocardial infarction.

SURGICAL PATHOLOGY

DR. JEAN E. TODD, Pathologist in Charge

The number of specimens processed during 1964 was 11,301. The number of routine slides increased to 41,739. Because of completion of the histology laboratory renovation it was possible to handle this increase and also to process 1,344 research slides for the Department of Surgery.

During 1964, 617 operative consultations utilizing frozen section were performed.

OPERATING ROOMS

MISS DOROTHY ELLISON, R.N., Department Head, Operating Room Nursing Service

There were 14,108 operative procedures in 1964 in the Department of Surgery as compared to 13,740 in 1963. The nursing shortage was not as acute as in recent years and permitted full operating schedules in all rooms during the year.

With the institution of a formal thoracic service it was necessary to combine the operative schedule of the pediatric surgical service in the other rooms. This has been done without incident or decrease in the total number of procedures.

In December the operating rooms began elective surgery on Saturdays on a limited scale. Dr. Peter Dineen continues as Chairman of the

Operating Room Committee. In September, 1964, Miss Rose Farmer retired after 22 years of service and Miss Genevieve Nielsen was appointed to the position of Supervisor of the private operating room.

LABORATORIES FOR SURGICAL RESEARCH

Plans for centralized animal care facilities on the seventh floor are now being implemented. A veterinarian, Dr. Bruce Ewald from the University of Iowa, is in charge of these facilities which will be shared by the Department of Surgery and other departments of the Center. Dr. Ewald assumed his duties as Director of Animal Resources on the first of January, 1965.

Investigations of the constituents of bile have continued during the year in collaboration with Dr. Mary Ann Payne of the Department of Medicine. Each resident undertakes a project in this field for investigation during his stay in the surgical research laboratories. Dr. Dean Weaver studied fatty acids in blood and bile of people with a normal biliary tree and people with cholelithiasis. Dr. Adrian Johnson studied the fatty acids in the blood of women during and after the completion of pregnancy. Dr. James Asaph is studying the fatty acid in the blood of women with particular attention to changes occurring during the normal menstrual cycle. An investigation into the possibility of creating large diameter bile conduits was undertaken during the year, with attention primarily directed toward determining the healing of the choledochostomy after removing large diameter conduits.

Dr. Kenneth Swan worked on producing stomach pouches on small animals and was successful in creating Heidenhain pouches in rats, thus obtaining long term studies from these pouches. This is apparently the first time stomach pouches have been successfully created in animals the size of the rat. Dr. Henry Mannix continued his investigation of the effects of endotoxin on acid pepsin and mucus production by the stomach of the dog.

Dr. George Holswade has continued his studies to develop an improved cardiac pacemaker lead. The most promising material seems to be composed of silastic and gallium eutectic. Implantation studies in rats and dogs have indicated that gallium eutectic may be too toxic for human use and studies are underway employing pure gallium, which is relatively inert. Studies for the autotransplantation of the canine heart employing extracorporeal circulation have also been initiated. Dr. Frank Redo has continued his work on the development of a satisfactory implantable cardiac substitute. Plastic right and left heart substitutes have been constructed, as well as a special design pump to allow a stroke volume, rate and phase

variations. Methods for storing guinea pig hearts have been evaluated. Deep-freezing and storing at 4° centigrade seems to be the most satisfactory method. Hearts may be stored in this fashion for periods up to seven hours and regain normal function.

Dr. Arthur Okinaka, in cooperation with Dr. David Becker and Dr. Eugene Furth of the Radio-isotope Laboratory, has completed a preliminary evaluation of the dosimetry of macro-aggregated albumin (M.A.A.) labelled with radio-active ^{131}I . This technique is to be used to study post-operative pulmonary emboli.

Dr. Peter Guida, with Dr. S. W. Moore and Dr. George Wantz, has continued to study the measurement of blood flow in arteries and veins. Work has continued on the genesis of renovascular hypertension; the changing pressure and flow patterns in a gradually constricted artery; the use of PAH as an indicator of renal blood flow; the profoundly ischemic effects of vasopressors upon the kidney; the measurement of coronary blood flow in the non-arrested heart; the effect of vasopressors upon cardiac output; the instantaneous determination of single-stroke left ventricular output; the auto-regulation of renal blood flow in oligemic shock; effect of general anesthesia upon renal blood flow and effect of cross-clamping the aorta upon renal blood flow. Dr. Guida has devised a new type electromagnetic flowmeter based upon the principle of phase-detection. The advantage of this instrument is that it can be readily put together using easily available amplifiers and other modules present in almost every laboratory. Dr. George Wantz is studying the fate of autogenous vein grafts with special reference to elastin.

Dr. Charles McSherry studied the effect of hyperbaric oxygen in situations of reduced blood flow. For the experimental model, he is selecting the ischemic brain in dogs. Dr. McSherry is also studying the effect of hyperbaric oxygen on strangulation—obstruction in guinea pigs. Dr. Helena Gilder and Dr. George Cornell have continued the study of energy exchange in patients subjected to operative trauma. They also studied energy exchange in patients with gastrointestinal absorption defects and patients subjected to prolonged starvation. Dr. Gilder is studying the electrolytes in the gastric juice from histamine stimulated Heidenhain pouches. These studies seem to indicate the potassium forms an integral part of parietal cell juice. Dr. Gilder further is studying the effect of aldosterone on extracellular tissues.

Drs. Edward Goldsmith and John Whitsell have continued the studies of homotransplantation of kidneys. During the year 1964, 10 human kidneys were transplanted to nine recipients, bringing the total experience to 14 operations upon 13 patients. A wide range of studies is under way,

some in conjunction with other departments, involving canine renal blood flow patterns during the acute phase of homograft rejection. The effect of vaso-active drugs upon denervated kidneys was studied. The effect of Imuran on growth was investigated and the immunosuppressive capability of puromycin involving mouse skin grafts and canine renal homografts. Short term preservation of kidneys was studied by use of dimethylsulfoxide perfusion and sub-zero cooling without freezing.

Urology Research

Dr. John Keuhnelian studied the effect of testosterone on hematopoiesis by transplanted bladder mucosa in conjunction with Dr. Richard Silver of the Department of Medicine.

Ophthalmology Research

Drs. John McLean and Harvey Lincoff have investigated the effect of extreme cold on the ciliary body as a means of modifying aqueous production. They also studied the control of infection in silicone implantation for detached retinas. Dr. Jerry Jacobson has engaged in the study of the electrical activity of the visual system with two aims: (1) to ascertain the normal relationships and characteristics of the activity recordable from the surface of the eye and scalp and (2) to utilize this information in aiding in the diagnosis of clinical problems. This involves the electroretinogram and visual evoked response. Approximately 100 electroretinograms of patients have been recorded. The investigators have used the averaging computer for studying the human visual stimulus evoked response of the brain. In line with this, the effect of variation in the parameters of this response has been undertaken in a number of human volunteers.

Neurosurgery Research

Dr. Russel H. Patterson, Jr., with the collaboration of the Departments of Neurology and Anatomy, has studied the problem of whether extreme cold damages the brain. Cats are trained to discriminate certain patterns, then subjected to deep hypothermia and finally restudied to see if their trained responses have been altered.

A new method of evaluating acid-base metabolism under hypothermia by measuring pH and $p\text{CO}_2$ at two temperatures has been devised and found satisfactory for clinical use.

Plastic Surgery Research

Much of the work done in the plastic surgery laboratory has been concentrated on homograft problems. These studies involved the effect

of antiproteolytic enzyme factors on the homograft rejection phenomenon. A factor has been isolated from the spleens of animals carrying tumor homografts which is capable of inducing splenomegaly in normal animals. Dr. Dicran Goulian is continuing his investigations into the mechanisms by which antigenic information gains access to the immunologically responsive centers in the intact host. Drs. Goulian and Conway have been studying the potential of a new silicone plastic as a soft tissue substitute. An investigation has been started into the production of deformities of the palate and jaw in chicks by the introduction of Deoxyguanosine into the yolk sac four days after fertilization.

OUTPATIENT DEPARTMENT

DR. S. W. MOORE, Attending Surgeon in Charge

Fourteen clinics make up the Surgical Outpatient Department, which functions in close cooperation with all other outpatient facilities.

Surgical Diagnostic Clinic

Diagnostic study and immediate follow-up after operation are the chief functions of this clinic. It is staffed by attending surgeons, the surgical house staff and third year medical students. This year there were 991 new patients and 11,501 patient visits. The proctology and gastrectomy clinics are also located here. This year two new rooms with toilet facilities were added to the proctology clinic for better preparation of patients before examination.

Minor Surgery Clinic

During the year 1,349 new patients were seen and 11,450 visits made. Most of these patients require minor operations or need surgical dressing following discharge from the inpatient service. Patients being followed in a national study of chemotherapy of cancer are seen here. Two specialty clinics deal with minor foot problems and varicose veins.

Nerve Block Clinic

The Nerve Block Clinic, held Wednesday afternoons on K-7 by appointment, performed 26 diagnostic and therapeutic nerve blocks in 1964. When Dr. Francis M. Tiers resigned, his responsibilities were assumed by Dr. Alexander Gotta. A resident and attending anesthesiologist conduct the clinic, treating painful conditions and using nerve block techniques to diagnose the nervous pathways of pain in order to determine the advisability of surgical intervention.

Ophthalmology

The orthoptic clinic continues to expand its activities in the treatment of strabismus, and amblyopia and the study of pleoptics. The need for an additional full-time orthoptist is becoming acute due to increasing activity. The dyslexia clinic studies children with visual reading problems. Dr. Walter Peretz, working with Dr. Bronson Ray of Neurosurgery on a study of diabetic retinopathy and the effect on it of hypophysectomy, is developing a technique of fluorescent fundus photography.

A total of 15,977 patients were seen during the year, an increase of 3 per cent over 1963.

Otolaryngology

The outpatient personnel remains essentially the same, except for the addition of Dr. Mary Ann Frable, who conducts three afternoon clinics.

The otolaryngology endoscopic clinic is held each Wednesday morning. A total of 100 laryngoscopies, 111 bronchoscopies and 36 esophagoscopies were carried out during the year; 12 were procedures for the removal of a foreign body from the air or food passages. The surgical endoscopic clinic performed 165 bronchoscopies and 51 esophagoscopies.

The Speech and Hearing Center continues to cooperate with the State of New York, Department of Health, in the Handicapped Children Program in regard to speech and hearing problems. During 1964, 98 children were followed on an active basis through this program and 30 were closed out of the program upon completion of their work-ups and upon referral to local agencies. An additional 21 children were followed on a non-state aid basis.

As a result of what is hoped to be an annual grant, an additional speech therapist joined the staff and works primarily with hard-of-hearing children, with special reference to problems encountered between the normal parent and hard-of-hearing child.

Clinical research at present is directed mainly towards evaluating the effectiveness of the submucosal injection of the inferior turbinates with different long-acting steroids for decreasing congestion of the nasal mucosa and improving nasal ventilation.

New patients seen numbered 3,171, with a total of 14,299 patient visits during the year.

Plastic Surgery

Clinic visits in 1964 increased to 1,634, as compared to 1,523 in 1963. A total of 94 minor surgical operations were performed.

Through the cooperation of the general surgical staff, plastic surgeons have been called to the Emergency Unit for repair of trauma in 92 cases. Individual treatments in speech therapy numbered 212. The total number of necessary orthodontic treatments has stabilized at approximately 550 for the past two years, while orthodontic consultations increased to 73 in 1964 from 55 in 1963.

Urology

Dr. Theodore Robinson, radiologist, now occupies an office on the urology floor and thus greatly increases our liaison with the Department of Radiology. The specially equipped room for pediatric urological examinations is now in full operation and proving to be a great asset. The Fleischman Fund of Nevada, which provided funds for this room, has indicated it will continue support for the next three years in the study of genitourinary anomalies in children.

The number of procedures performed in the cystoscopic suites on the ninth and eleventh floors continues to increase, to a point where the demand on the facilities in the eleventh floor suite is becoming a strain.

In addition to the research carried out on both inpatients and outpatients in the pediatric urological room, Dr. Edwin Drew continues his studies on the local application of Thio-Tepa to the bladder for the prevention of recurrent neoplasm.

New patients seen numbered 553 and outpatient visits 8,362.

Emergency Unit

The inpatient area of the Emergency Unit, consisting of 10 observation beds, admitted a total of 938 patients in 1964, compared with 758 in 1963. Of these, 39 were private patients. The use of these beds saves many admissions to the pavilions and premature discharges from the Emergency Unit.

31,330 patients were registered in the Emergency Unit in 1964, an increase of 2,528 (8 per cent) over 1963 and 5,522 (17 per cent) over 1962, the first full year of operation of the new Unit.

Total registrations by services were as follows:

General Surgery—non trauma.....	4,369	
General Surgery—soft tissue trauma.....	6,793	
<i>Total General Surgery.....</i>		<i>11,162</i>
Surgical Specialties:		
Otolaryngology.....	898	
Plastic Surgery.....	136	
Oral Surgery.....	752	
Neurosurgery.....	132	
Urology.....	659	
Ophthalmology.....	1,738	
Fracture.....	1,338	
<i>Total Surgical Specialties.....</i>		<i>5,653</i>

Medicine.....	9,552	
Obstetrics and Gynecology.....	98	
Pediatrics.....	4,865	
<i>Total.....</i>		<u>14,515</u>
<i>Total Registrations in Emergency Unit..</i>		31,330

Of the total 31,330 registrations, there were 2,078 compensation cases and 1,524 other private cases.

16,925 (54 per cent) of these patients were surgical or surgical specialty patients. 8,131 (26 per cent) suffered fractures or other trauma.

Admissions to the hospital from the Unit totaled 3,588, 63 less than 1963. 1,597 (45 per cent) of these patients were admitted to the surgical or surgical specialty services. 427 (12 percent) were admitted for fractures or other trauma.

Surgical Follow-up Clinic

The Surgical Follow-up Clinic is held twice monthly on Sunday mornings under the supervision of Mrs. Frances DeFranco and two assistants, Miss Sarah Hamilton and Mrs. Greta McGrory. Mail notices and telephone calls urge patients to attend the clinic, where referrals to other outpatient clinics are often made, or readmission to the hospital urged when it is deemed advisable. All material is up to date, with 10,311 patients currently being followed. During the year 590 cases were closed, including deaths, and 996 new cases added, the increase in total cases being 406.

The Pediatric Surgical Follow-up Clinic is held in conjunction with general surgery and has 481 cases on file, with 118 new patients and 42 cases, including deaths, closed during the year.

The Fracture Follow-up Clinic is presently following 638 cases: 572 (including deaths) were closed during the year and 539 new cases added. The combined surgical follow-up clinics therefore have 11,430 current cases on file at the end of 1964.

Fracture

This clinic, where 987 patients were treated in 1964, is held in conjunction with the Hospital for Special Surgery. The X-ray reproduction file on all patients treated on the Fracture Service is a source of material for teaching and clinical research.

Under the auspices of Cornell University Medical College, the Ninth Annual Postgraduate Course in fractures and other trauma was given in June. This course consisted of 50 lectures by members of the faculty of Cornell Medical College and the staff of The New York Hospital and the Hospital for Special Surgery, and was attended by approximately 100 surgeons from outside the Cornell Medical Center.

The Tuesday Fracture Conferences are well attended by staff members from neighboring hospitals, as well as by residents of the two hospitals and students of the medical college.

Pediatric Surgery

This clinic is held twice weekly and 681 patients were seen during 1964. In addition, the Surgical Follow-up Department has 481 pediatric cases currently on file.

Neurosurgery—Neurology

A total of 2,764 patient visits were made to the combined Neurosurgery—Neurology Clinic during the year.

Hospital for Special Surgery

Dr. Harlan C. Amstutz, a former resident, and Dr. Ralph C. Marcove, a Clinical Assistant Surgeon at Memorial Hospital, joined the staff as Orthopaedic Surgeons to the Outpatient Department.

The number of patient visits increases steadily. The thirteen specialty clinics meet primarily in the morning and the routine orthopaedic clinic in the afternoon. Tremendous strides are being made in certain clinics. The Hand Clinic, which is now held twice weekly to accommodate the heavy patient load, is a good example. The Metabolic Bone Disease Clinic is working on the determination of calcium excretion by the use of radio-isotope studies. A decline in the number of cases of paralytic poliomyelitis has been offset by the increased number of congenital deformities, as well as results of trauma and disease.

The number of visits increased to 51,941 in 1964 from 49,990 in 1963. For those interested in resident training, when the number of visits to the Fracture Service at The New York Hospital and the Veterans' Hospital is added, the total reaches approximately 62,000 visits per year.

Thoracic Surgery

Since the establishment of the Thoracic Service in July, either the resident or the first assistant resident has regularly attended biweekly Cardiac Clinic sessions. Here, together with the cardiology group, preoperative patients are evaluated prior to admission and postoperative patients are followed. This has eliminated the necessity for postoperative patients attending both the General Surgery and the Cardiac Clinic. In addition, a clinic meets every Friday afternoon for preoperative, postoperative and non-operative patients with pulmonary disease. A wide variety of ventilatory function studies can now be done on an ambulatory basis. The patients are seen by the resident staff, with both medical and surgical consultation

available at the joint medical-surgical pulmonary conference held on Friday afternoons following the clinic.

SPECIAL GRANTS AND DONATIONS FOR SURGICAL RESEARCH

U. S. Public Health Service:	
General Surgery.....	\$108,746.00
Ophthalmology.....	66,858.00
Plastic Surgery.....	31,679.00
Neurosurgery.....	27,748.00
Cardiac Surgery.....	23,496.00
Biochemistry.....	22,030.00
Thorne Foundation—Vascular Surgery.....	50,000.00
Department of the Army:	
Surgical Bacteriology.....	17,588.00
Plastic Surgery.....	10,200.00
N. Y. City Health Research Council:	
Ophthalmology.....	17,499.00
Biochemistry.....	7,740.00
Vincent Astor Foundation—General Surgery.....	25,000.00
Max C. Fleischmann Foundation of Nevada—Urology.....	25,000.00
National Council to Combat Blindness—Ophthalmology.....	19,149.00
Schiff Foundation—General Surgery.....	18,220.00
American Heart Association—General Surgery (Hemodynamics)	10,200.00
Anonymous—General Surgery.....	10,000.00
Anonymous—Cardiovascular Surgery.....	10,000.00
B. C. Gamble Charitable Trust—Orthopedics.....	10,000.00
William Hale Harkness Foundation—General Surgery.....	10,000.00
Mr. and Mrs. L. F. McCollum—Biliary Tract.....	8,290.38
Health Research, Inc.—Cancer Research.....	8,080.00
Susan Greenwall Foundation:	
Ophthalmology.....	5,000.00
General Surgery.....	3,000.00
Johnson & Johnson—Surgical Bacteriology.....	8,000.00
Mr. and Mrs. Frank Smith:	
Ophthalmology.....	3,543.76
Trauma.....	3,543.76
Lewis Cass Ledyard Jr. Fellowship Fund—General Surgery....	7,000.00
Barney Balaban—Plastic Surgery.....	6,000.00
National Society for the Prevention of Blindness—Ophthalmology	5,750.00
John Polachek Foundation—General Surgery.....	5,280.00
Mrs. Francis M. Weld—Surgical Metabolism.....	5,021.00
Altman Foundation—Plastic Surgery.....	5,000.00
Hugh J. Grant—Gastric Physiology.....	5,000.00
Estate of Maud G. Holmes—Neurosurgery.....	5,000.00
In memory of Miss Anna D. MacDougall, R.N.—Trauma.....	5,000.00
Research to Prevent Blindness—Ophthalmology.....	5,000.00
Mrs. George E. Vigoroux, Jr.—Biliary Tract.....	5,000.00
Deafness Research Foundation—Otolaryngology.....	3,500.00
Squibb Division, Olin:	
Surgical Bacteriology.....	2,000.00
Gastroenterology.....	1,000.00
National Academy of Sciences—Anesthesiology.....	2,500.00
Charles Guttman—Biliary Tract.....	2,000.00
Mrs. Cyrus McCormick—Otolaryngology.....	2,000.00
J. J. O'Neill Foundation—Plastic Surgery.....	2,000.00
Sinsheimer Fund—General Surgery (Hemodynamics).....	2,000.00
New York Heart Association—Cardiovascular Surgery.....	1,713.00
Dr. Preston A. Wade—Trauma.....	1,694.38
Buffalo Foundation:	
Plastic Surgery.....	1,000.00
Trauma.....	500.00

Dr. J. Edwin Drew—Urology.....	1,500.00
Mrs. Faith L. Phelps—Gastroenterology (Liver).....	1,084.48
Mrs. J. G. Livingston—Gastroenterology (Liver).....	1,038.51
Anonymous—Urology.....	1,000.00
Barnes-Hind Ophthalmic Products—Ophthalmology.....	1,000.00
Mr. and Mrs. Deane W. Malott—Biliary Tract.....	1,000.00
Dr. and Mrs. Charles M. McLane—Plastic Surgery.....	1,000.00
Queenan Foundation—Biliary Tract.....	1,000.00
Mrs. Beverly R. Robinson—Gastroenterology (Liver).....	1,000.00
Mr. and Mrs. Robert L. Werner—Biliary Tract.....	1,000.00
Anonymous—Neurosurgery.....	500.00
Anonymous—General Surgery.....	500.00
Elmer M. Bloch—Urology.....	500.00
Doyle & Roth Mfg. Co.—Ophthalmology.....	500.00
Mrs. Trevor Kenyon—Biliary Tract.....	500.00
Zaifert Foundation—Ophthalmology.....	500.00
Miscellaneous:	
Ophthalmology.....	2,071.36
Urology.....	1,925.00
Cardiac Surgery.....	1,000.00
Otolaryngology.....	784.50
Neurosurgery.....	745.00
Cancer Research.....	575.00
Pediatric Surgery.....	571.77
General Surgery (Biliary Tract).....	291.00
General Surgery.....	200.00
Plastic Surgery.....	100.00
Trauma.....	100.00
Cardiovascular Surgery.....	75.00
Oral Surgery (Dentistry).....	50.00
Gastroenterology (Liver).....	25.00
	\$663,505.90

GENERAL COMMENTS

With the opening in July of the 28-bed thoracic surgery section the activities of the department expanded into nine special areas in addition to the three sections of general surgery. The trend toward specialization is justifiable on the basis of extension of our field of knowledge, getting the day's work done, and providing training for those who will further the area of their particular interest. The emphasis, however, must rest on general surgery, the foundation upon which the specialties rely. Enthusiasm for areas of new endeavor is most productive when it is closely associated with the accepted, the basic and the feasible. The general principles of surgery cannot be abrogated by the specialties in their initial flights into the uncharted. Our most outstanding authorities in surgical training are unanimous in the opinion that two years or more of general surgical training is desirable for those intening to undertake training in a specialty.

The continuing development of intricate diagnostic procedures and therapeutic surgical measures parallels, and indeed is stimulated by, research in our laboratories as well as those elsewhere. Every advance in special knowledge places an additional burden on the Center. The great

expense of such complicated mechanisms as electronic analyzers, of physical facilities and equipment which often becomes obsolete after brief use, and of the technical personnel to man them, require funds far beyond what has previously been adequate for patient care.

Committed as we are, not only to patient care and research, but also to the training of the surgeons of the future, we are obligated to preserve a balance of activity and perspective in the conduct of the department. Close coordination of all areas must be maintained in order to accomplish our present objectives and to set an example for those whom we accept in our training program. Concomitantly we seek to assist those institutions not associated with medical centers which are being called upon for additional public service. The current trend of the federal government to greatly expand all facilities relative to medical care surely increases our responsibilities and obligations.

FRANK GLENN, M.D.

S. W. MOORE, M.D.

BJORN THORBJARNARSON, M.D.

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CLASSIFICATION OF OPERATIONS

Department of Surgery

PAVILION (PAV.) AND PRIVATE (PRIV.)

	Pav.	Priv.		Pav.	Priv.
FLAPS, GRAFTS			Insertion—prosthesis—		
—split thickness.....	52	49	subcutaneous.....	7	7
—full thickness.....	4	13	Primary suture of wound....	7	5
—bone.....	9	8	Dermabrasion.....	5	6
—cartilage.....	1	7	Removal—prosthesis—		
—dermafat.....	—	2	subcutaneous.....	3	4
—composite.....	2	—	Removal of skin sutures.....	1	4
Preparation pedicle.....	6	10	Others.....	2	2
Plastic closure					
—advancement flap.....	7	6		322	585
—open jump flap.....	1	4	BREAST		
—rotation flap.....	4	3	Local excision		
—tubed pedicle.....	—	3	—lesion.....	69	88
—interpolated flap.....	1	1	—cyst.....	41	50
Plastic excision.....	3	6	—fibroadenoma.....	31	27
Revision of pedicle.....	4	5	Radical mastectomy.....	39	79
Polyethylene tube insertion...	5	2	Biopsy.....	22	35
Partial cutting—pedicle.....	5	3	Simple mastectomy.....	7	16
Other.....	1	—	Augmentation mastoplasty...	1	14
			Excision of gynecomastia....	11	2
	105	122	Mastotomy with drainage....	2	7
SKIN, SUBCUTANEOUS TISSUE			Reduction mastoplasty.....	3	2
Incision, drainage			Others.....	2	4
—subcutaneous abscess.....	32	31			
—wound infection.....	11	8		228	324
—skin infection.....	—	6	BONES		
—infected nail bed.....	2	1	Osteotomy.....	14	24
Evacuation—hematoma.....	1	8	Closed reduction fracture....	2	—
Local excision of			—with internal fixation.....	95	65
—lesion of skin.....	18	76	—with cast.....	17	20
—lesion—subcutaneous.....	19	55	—with skeletal traction.....	4	5
—lipoma.....	28	45	Open reduction of fracture		
—benign neoplasm—skin.....	25	24	—with internal fixation.....	42	18
—scar.....	10	11	—with cast.....	2	1
—steatoma.....	1	4	—with external fixation.....	2	3
—keloid.....	3	3	Removal of		
—subcutaneous foreign body..	2	—	—plate, screw, etc.....	14	18
Wide excision of			—sequestrum (not skull)....	2	1
—malignant neoplasm—skin..	20	36	—foreign body.....	—	2
—lesion—subcutaneous.....	5	17	Local excision lesion.....	5	12
—lesion of skin.....	6	12	Biopsy—lesion.....	3	2
—malignant neoplasm.....	4	4	Bone graft for fracture.....	2	3
Excision of scar.....	30	47	Nonunion of fracture.....	2	3
—pilonidal sinus.....	10	18	Local excision—chondroma...	3	1
—nail (partial).....	—	6	Debridement fracture.....	1	2
—nail (complete).....	—	5	Others.....	6	8
—skin with graft.....	3	2			
Rhytidectomy.....	8	62		216	188
Debridement—skin.....	7	23	JOINTS		
Excision—pilonidal sinus....	13	20	Closed reduction dislocation		
Tattoo—lesion of skin.....	18	16	—with cast, splint, or traction	6	2
Secondary suture of wound...	13	8	—with repair.....	1	6
Biopsy.....	8	9			

CLASSIFICATION OF OPERATIONS—(PAV.) AND (PRIV.)—Continued

	<i>Pav.</i>	<i>Priv.</i>		<i>Pav.</i>	<i>Priv.</i>
Arthroplasty.....	—	3	Biopsy—nose.....	3	2
—with mechanical device....	4	6	Others.....	6	4
Local excision—lesion.....	1	5		119	176
Arthrotomy with exploration..	1	3	ACCESSORY SINUSES		
Cutting of ligaments.....	1	3	Ethmoidectomy.....	4	8
Excision cartilage, knee joint..	—	3	Radical sinusotomy.....	7	9
Arthrodesis.....	1	2	Simple sinusotomy.....	2	—
Others.....	1	5	Biopsy.....	2	—
	16	38	Closure—oral fistula.....	2	—
BURSA			Antrotomy.....	2	1
Excision.....	4	6		19	18
Others.....	—	2	LARYNX		
	4	8	Laryngoscopy.....	67	25
MUSCLES			Local excision—lesion.....	3	17
Biopsy of muscle.....	17	3	Biopsy.....	7	3
—of skin and muscle.....	35	30	Complete laryngectomy.....	4	4
Myoplasty.....	—	5	Others.....	1	1
Resection muscle.....	1	2		82	50
Others.....	3	1	TRACHEA		
	56	41	Tracheotomy.....	33	13
TENDONS, TENDON SHEATH			Tracheostomy.....	5	6
Ganglionectomy.....	16	24	Others.....	3	4
Suture.....	6	23		41	23
Tenoplasty.....	2	10	BRONCHI		
Exploration—tendon sheath..	1	4	Bronchoscopy.....	90	33
Transposition.....	1	4	LUNGS, PLEURA		
Drainage of tendon sheath...	4	—	Thoracotomy, exploration....	7	16
Excision—lesion.....	2	10	—with open drainage.....	5	5
Tenosynovectomy.....	—	2	—with closed drainage.....	1	2
Tenotomy.....	—	2	Complete pneumonectomy....	9	9
Others.....	—	3	Partial lobectomy.....	—	9
	32	82	Insertion—chest catheter....	7	7
FASCIA			Complete lobectomy.....	12	16
Fasciectomy.....	2	6	Thoracoplasty.....	4	1
Others.....	—	2	Pleurectomy.....	4	—
	2	8	Local excision—lesion—lung..	—	4
EXTREMITIES			Biopsy—lung.....	2	2
Amputation of			Biopsy—pleura.....	—	2
—leg.....	20	30	Others.....	1	2
—toes.....	8	9		52	75
—toes (by disarticulation)....	3	2	MEDIASTINUM		
—fingers.....	5	5	Mediastinotomy		
Repair of syndactylia.....	2	4	—with excision—lesion.....	4	3
Drainage—infection—hand...	4	—	—with drainage.....	—	4
Drainage—infection—foot...	4	—	—with biopsy.....	—	4
Others.....	4	3	—with exploration.....	—	3
	50	53		4	14
NOSE, NASOPHARYNX			HEART		
Rhinoplasty.....	31	68	Mitral valvulotomy, open....	3	2
Excision—lesion—nose.....	25	55	—closed.....	13	16
Septectomy.....	39	33	Aortic valvulotomy.....	—	8
Reduction—fracture—nose...	15	11	Insertion—cardiac pacemaker	12	6
Turbinectomy.....	—	3			

CLASSIFICATION OF OPERATIONS—(PAV.) AND (PRIV.)—Continued

	<i>Pav.</i>	<i>Priv.</i>		<i>Pav.</i>	<i>Priv.</i>
Aortic valvuloplasty.....	10	9	SPLEEN, MARROW		
Mitral valvuloplasty.....	9	2	Splenectomy.....	18	11
Resection—coarctation, aorta.	4	1	Biopsy—bone marrow.....	4	2
Closure—atrial septal defect..	7	6		22	13
—ventricular septal defect...	3	3			
Angiocardiography.....	3	—	LYMPHATIC SYSTEM		
Cardiectomy with removal—			Biopsy—lymph node.....	63	75
tumor.....	1	2	Excision—lymph nodes.....	58	38
Cardiotomy with exploration...	—	2	—radical.....	2	7
Others.....	3	4	Drainage—lymph nodes.....	1	3
	68	61	Neck dissection.....	2	2
PERICARDIUM			—radical.....	4	11
Pericardiotomy with exploration	2	—	Lymphadenotomy for abscess.	—	2
Others.....	2	—	Others.....	—	4
	4	—		130	142
ARTERIES (OTHER THAN AORTA)			MOUTH, LIPS, TONGUE, TEETH,		
Cerebral angiography.....	43	90	GUMS		
Arteriectomy with exploration.	3	2	Surgical removal—tooth....	22	13
—with bypass graft.....	14	12	Extraction of teeth—simple..	6	5
Creation A-V fistula for dialysis	6	—	—multiple.....	15	1
Ligation of artery.....	5	5	—multiple plus alveolectomy.	4	—
—cervical.....	—	3	Plastic repair—cleft lip.....	6	13
Patent ductus arteriosus			Cheiloplasty (not cleft lip)...	6	7
—ligation.....	3	4	Biopsy of tongue.....	2	7
—transection.....	2	4	—mouth or lip.....	2	—
Aneurysmorrhaphy, intra-			—gum.....	2	—
cranial.....	3	4	Partial glossectomy.....	5	6
Arterial embolectomy.....	4	1	Dental root resection.....	5	—
Excision—lesion—artery.....	2	3	Implantation—radioactive sub-		
Excision—arterial aneurysm..	1	3	stance, mouth.....	4	2
Arterial anastomosis.....	—	3	Excision—lesion—mouth....	4	2
Biopsy.....	3	4	Local excision—lesion—lip...	1	3
Endarterectomy.....	3	3	Drainage—abscess.....	3	—
Exploration—arterial graft...	3	1	Stomatoplasty.....	1	2
Pulmonary arterial banding..	3	—	Operation for glossoptosis...	1	2
Others.....	10	6	Others.....	6	4
	108	148		95	67
AORTA			PALATE, UVULA		
Aortic anastomosis.....	7	5	Repair—cleft palate.....	13	10
Aortotomy with bypass graft.	2	6	Local excision—lesion.....	2	6
Excision of			Palatal pushback.....	3	3
—aortic aneurysm with graft.	5	14	—and pharyngeal flat con-		
—coarctation of aorta.....	—	3	struction.....	5	1
Exploration—aortic graft.....	1	2	Closure—fistula—palate....	1	5
Repair—dissecting aneurysm.	—	2	Others.....	2	1
Aortography.....	1	—		26	26
	16	32			
VEINS			SALIVARY GLANDS AND DUCTS		
Operation varicose veins.....	58	101	Excision—salivary gland....	1	8
Portacaval shunt.....	4	1	—submaxillary gland.....	2	—
Ligation.....	2	2	—lesion—salivary gland....	5	18
Excision of lesion.....	—	2	Sialolithotomy.....	1	2
Others.....	—	1	Others.....	3	2
	64	109		12	30

CLASSIFICATION OF OPERATIONS—(PAV.) AND (PRIV.)—Continued

	<i>Pav.</i>	<i>Priv.</i>		<i>Pav.</i>	<i>Priv.</i>
PHARYNX, ADENOIDS AND TONSILS			—multiple	1	2
Adenoidectomy alone	14	8	Sigmoidotomy	4	7
Tonsillectomy	126	68	Sigmoidostomy	—	5
—and adenoidectomy	182	240	Local excision of lesion	3	6
Excision—pharyngo-esophageal			Cecostomy	2	2
diverticulum	—	4	Reduction of volvulus	1	2
Biopsy of pharynx	—	2	Lysis of adhesions	—	2
Others	5	2	Biopsy	2	—
	327	324	Exteriorization	—	2
			Others	4	1
ESOPHAGUS				127	209
Esophagoscopy	28	11	APPENDIX		
Dilation	9	—	Drainage—appendiceal abscess	—	2
Esophagogastrectomy	3	6	Appendectomy		
Others	5	6	—acute appendicitis	67	82
	45	23	—with drainage	23	15
STOMACH			—chronic appendicitis	4	9
Gastrectomy—partial	44	50	—with drainage	—	2
—complete	3	2		94	110
—radical	3	2	RECTUM, ANUS		
Gastrojejunostomy	4	22	Hemorrhoidectomy	16	59
Gastrostomy	17	5	Proctoscopy	—	3
Gastroenterostomy	8	6	—with excision	21	31
Pyloromyotomy	5	7	—with biopsy	1	6
Suture	2	3	—with dilation	—	4
Pyloroplasty	1	3	Drainage—perirectal abscess	13	17
Others	3	6	—perianal abscess	4	4
	90	106	Abdominoperineal resection of		
SMALL BOWEL			—rectum	16	5
Lysis of adhesions	19	11	—rectum and sigmoid	10	13
Resection	9	15	Anal fistulectomy	4	14
—ileum	3	11	Anal fistulotomy	3	9
Plication—duodenal ulcer	5	1	Local excision—lesion—rectum	6	9
Enterostomy			Local excision—lesion—anus	5	5
—duodenal-jejunal	1	3	Anoplasty	2	3
—revision	2	1	Partial resection—rectum	1	2
—closure	1	3	Others	4	8
Ileo—transverse colostomy	1	3		106	192
Ileo—jejunostomy	2	—	LIVER, BILIARY TRACT		
Suture	1	2	Cholecystectomy		
Jejunostomy	1	2	—for chronic disease	102	174
Jejuno-jejunostomy	—	2	—for acute disease	41	33
Ileo—ileostomy	2	1	—and common duct		
Ileodescending colostomy	2	—	exploration	2	3
Others	4	10	—and choledochotomy	26	35
	53	65	Cholecystostomy	13	13
LARGE BOWEL			Biopsy of liver	7	13
Colectomy			Cholecystojejunostomy	6	9
—left (descending)	29	70	Choledocholithotomy	9	6
—transverse	3	11	Choledochotomy		
—right (ascending)	12	21	—with exploration	5	9
—partial	4	16	Cholecystotomy		
—complete	4	4	—with removal of calculus	6	3
Colostomy	21	22	Choledochostomy	1	3
—closure	21	19	Plastic repair—bile ducts	—	2
—revision	10	6	Others	2	10
Colotomy	6	11		220	313

CLASSIFICATION OF OPERATIONS—(PAV.) AND (PRIV.)—Continued

	Pav.	Priv.		Pav.	Priv.
PANCREAS			Cutaneous ureterostomy.....	9	6
Radical pancreato- duodenectomy.....	3	3	Construction—ileal conduit..	9	3
Local excision—lesion.....	2	—	Partial ureterectomy.....	3	2
Partial pancreatectomy.....	—	2	Ureteroplasty.....	—	2
Pancreaticoduodenostomy....	—	2	Ureterolysis.....	1	1
Others.....	1	2	Others.....	2	2
	6	9		43	72
ABDOMEN, PERITONEUM, OMENTUM			BLADDER		
Hernia repair			Transurethral resection.....	55	90
—inguinal.....	246	386	Cystostomy.....	28	29
—umbilical.....	40	3	Cystoplasty.....	9	23
—ventral.....	34	32	Cystoscopy.....	3	11
—femoral.....	19	12	Cystectomy—complete.....	3	11
—esophageal hiatal.....	4	16	—partial.....	3	5
—incisional.....	5	12	Local excision.....	5	10
—epigastric.....	2	6	Cystolithotomy.....	1	8
—diaphragmatic.....	4	2	Cystopexy.....	3	6
Exploratory laparotomy.....	30	60	Drainage—perivesical tissues and/or space.....	1	3
Peritoneocentesis.....	18	4	Litholapaxy.....	1	2
Biopsy of			Others.....	4	3
—abdominal tumor.....	5	17		116	201
—omentum.....	—	3	URETHRA		
—peritoneum.....	1	1	Urethroplasty.....	12	14
Drainage—peritoneal abscess..	—	4	Closure—fistula.....	1	11
—intra-abdominal abscess....	4	14	Meatotomy.....	8	5
Lysis—peritoneal adhesions..	3	7	Excision of lesion.....	2	6
Secondary suture—abdominal wall.....	2	3	Urethral dilatation.....	2	1
Excision—lesion—peritoneum	1	2	Drainage—periurethral abscess	2	—
—lesion—abdominal wall....	1	3	Others.....	1	2
Others.....	4	6		28	39
	423	593	MALE GENITAL SYSTEM		
KIDNEY, RENAL PELVIS			Orchiopexy.....	23	21
Nephrectomy.....	18	25	Circumcision.....	78	18
—radical.....	5	5	Excision—lesion—testis.....	16	22
—partial.....	5	4	Scrotal orchiectomy.....	12	14
Nephrostomy.....	21	14	Inguinal orchiectomy.....	6	7
Pyelolithotomy.....	13	22	Correction—chordee.....	7	9
Decapsulation—renal cyst....	—	12	Ligation—vas deferens.....	2	7
Pyeloplasty.....	4	8	Plastic operation—penis.....	3	4
Homograft—kidney.....	7	—	Local excision—lesion—penis.	2	1
Nephroureterectomy.....	4	5	Biopsy of testis.....	3	3
Biopsy—kidney.....	4	1	Others.....	8	6
Nephrolithotomy.....	1	3		160	112
—complete.....	1	4	PROSTATE		
Drainage—perirenal abscess..	2	1	Transurethral resection.....	75	133
Exploration—kidney.....	1	2	Prostatectomy—suprapubic..	3	73
—perirenal tissues.....	2	—	—retropubic—simple.....	23	23
Others.....	2	2	—retropubic—radical.....	—	10
	90	108	—perineal—simple.....	2	1
URETER			—perineal—radical.....	7	4
Reimplantation—ureter into bladder.....	15	42	Biopsy.....	2	1
Ureterolithotomy.....	4	14		112	245

CLASSIFICATION OF OPERATIONS—(PAV.) AND (PRIV.)—Continued

	Pav.	Priv.			
FEMALE GENITAL SYSTEM			—lumbar nerve root, spon-		
Panhysterectomy.....	—	7	dylosis.....	—	4
Oophorectomy.....	—	6	—cervical herniated nucleus		
Dilatation and curettage.....	—	4	pulposus.....	—	3
Salpingo—oophorectomy.....	3	3	—spinal cord tumor,		
Colpopexy.....	—	2	irremovable.....	3	3
Others.....	—	8	Exploration—spinal cord.....	5	3
			Chordotomy.....	1	2
	3	30	Removal—subarachnoid shunt	2	—
			Others.....	3	1
ENDOCRINE SYSTEM				62	109
Thyroidectomy.....	—	3	NERVES		
—complete.....	—	3	Retrogasserian neurotomy....	2	15
—partial—non-toxic.....	40	64	Sympathectomy (not hyper-		
—partial—toxic.....	10	8	tension).....	12	9
Complete hypophysectomy....	9	32	Excision of lesion.....	3	7
Other radioactive substances..	8	13	Vagotomy.....	4	2
Adrenalectomy.....	6	3	Suture.....	2	4
Excision of			Neurectomy.....	1	4
—tumor—parathyroid.....	2	6	Neuroplasty.....	1	4
—pituitary adenoma.....	—	4	Anastomosis.....	1	3
—thyroglossal duct cyst.....	2	3	Neurolysis.....	—	2
—multiple nevi.....	—	3	Others.....	2	—
—tumor—adrenal gland.....	2	—		28	50
Others.....	2	1			
	81	140	EAR		
SKULL, BRAIN, MENINGES			Stapedectomy.....	15	61
Pneumoencephalography.....	69	77	Otoplasty.....	15	10
Removal—brain tumor.....	21	48	—for partial ear amputation..	2	7
Ventriculography.....	36	24	Myringotomy.....	4	11
Ventriculopleural anastomosis	13	6	Tympanoplasty, Type I.....	7	4
Exploration—brain.....	10	5	Radical mastoidectomy.....	—	2
—meninges, negative findings	9	8	—modified.....	4	6
Revision, ventricular shunt...	9	1	Ear construction.....	4	5
Closure—cerebrospinal fluid			Atticotomy.....	3	1
fistula.....	2	8	Excision—lesion—external		
Third ventriculostomy.....	8	—	auditory canal.....	2	2
Thalamotomy.....	3	7	Intubation—middle ear.....	—	2
Drainage—subdural hematoma	6	4	Others.....	3	5
Removal—infected bone plate	2	7		59	116
Evacuation—hematoma—			EYE		
brain.....	5	4	Lens extraction		
Ventriculocisternostomy.....	1	5	—intracapsular.....	222	277
Ventriculoatrial anastomosis..	4	1	—extracapsular.....	24	17
Removal—ventricular shunt			Repair of retina.....	43	161
tube.....	3	—	Muscle surgery—ocular.....	121	135
Craniectomy for cranio-			Blepharoplasty.....	40	102
synostosis.....	—	3	Peripheral iridectomy.....	24	71
Puncture—brain (aspiration)..	—	2	Sector iridectomy.....	1	2
Others.....	6	12	Sclerotomy with drainage....	17	39
	207	222	Cyclodialysis.....	19	22
SPINAL CORD AND NERVE ROOTS			Enucleation of eyeball.....	6	11
Myelography.....	30	52	Keratoplasty.....	6	10
Excision—intra-spinal tumor.	5	3	Excision—conjunctival cysts..	3	5
—herniated nucleus, pulposus.	8	24	Dacryocystorhinostomy.....	5	3
Decompression of			Probing—lacrimonasal duct..	2	4
—cervical cord, spondylosis...	5	9	Air injection.....	4	2
—cervical nerve root, spon-			Orbital decompression.....	1	4
dylosis.....	—	5	Orbitotomy.....	4	1

CLASSIFICATION OF OPERATIONS—(PAV.) AND (PRIV.)—Continued

	<i>Pub.</i>	<i>Priv.</i>		<i>Pub.</i>	<i>Priv.</i>
Repair iris prolapse.....	4	1	Iridocapsulotomy.....	1	2
Corneoscleral trephine.....	1	4	Conjunctivoplasty.....	2	—
Cyclocryo—therapy.....	—	4	Others.....	21	29
Suture of cornea.....	3	3			
Ptosis surgery.....	3	—		580	912
Iridotomy.....	1	2			
Cyclodiathermy.....	2	1	TOTAL OPERATIONS.....	5,043	6,766

CLASSIFICATION OF DEATHS

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TOTAL PAVILION DEATHS—1964

Operative deaths.....	93	Autopsies.....	82 (including 13 Medical Examiner's cases).....	80.4%
Nonoperative deaths.....	9	No autopsies.....	20 (including 3 Medical Examiner's cases).....	19.6%
Total.....	102	Total.....	102	
Cancer cases in which cancer caused death.....	30	Deaths following operative emergencies.....	14	
Cancer cases with other causes of death.....	4	Deaths following nonoperative emergencies.....	1	
Total Cancer Cases.....	34	Total deaths Following Emergencies.....	15	

TABLE I
OPERATIVE DEATHS, GENERAL SURGERY (PAVILION)

Number	Age	Primary Diagnosis	Operation	Cause of Death	Autopsy
DEATHS RELATED TO GASTROINTESTINAL DISEASES: 18					
(*Cancer Cases: 8 †Emergencies: 4 M.E.: Medical Examiner's Cases: 1)					
962332	85	Ulcerative colitis	Transverse colostomy	Bronchopneumonia	Yes
960822	58	Lupus erythematosus: mesenteric artery thrombosis	Small bowel resection	Bronchopneumonia	Yes
932603	45	Duodenal ulcer; hemorrhage	†Subtotal gastrectomy	Hepatic coma	Yes
336156	65	*Perforated ca.—stomach	Plication	Peritonitis	Yes
969171	46	Gastric stress ulcers	†Subtotal gastrectomy	Hemorrhage; infarction	Yes
272894	77	Cecal volvulus	Reduction	Infarction, heart	Yes
973096	69	Gastric ulcer; hemorrhage	Partial gastrectomy	Peritonitis; septicemia	Yes
804222	79	*Ca. esophagus	Gastrostomy	Bronchopneumonia	Yes
422095	71	*Ca. stomach; metastases	Exploratory laparotomy	Carcinomatosis	Yes
984946	20	Intestinal fistula; chronic glomerulonephritis	1. Closure fistula; 2. Lysis adhesions	Renal failure	Yes
232328	72	*Obstruction—colon; post gastrectomy; ca. stomach	1. Ileco colostomy 2. Tracheostomy	Aspiration pneumonia; cardiac arrest	Yes Yes

TABLE 1: OPERATIVE DEATHS, GENERAL SURGERY (PAVILION)—Continued

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation</i>	<i>Cause of Death</i>	<i>Autopsy</i>
988517	67	*Fracture, hip; gastric ca.	Biopsy omentum	Aspiration pneumonia	Yes
986676	67	*Ca. cecum; chronic pyelonephritis	Omental biopsy, ileo-transverse colostomy	Uremia; carcinomatosis	No
987073	92	Perforated diverticulitis; intertrochanteric fracture	1. Closed reduction, rt. hip 2. Sigmoid resection	Pulmonary embolus	Yes (M.E.)
990977	56	*Metastatic ca. sigmoid	Cecostomy	Cerebral metastasis	No
994921	67	Left renal calculus; duodenal ulcer	1. Partial nephrectomy †2. Partial gastrectomy †3. Plication—duodenal ulcer	Cardiac and renal failure	Yes
997477	50	*Ca. sigmoid colon	Liver biopsy	Peritonitis	Yes
993919	45	Gastric ulcer	Gastric resection	Myocardial infarction	Yes
DEATHS RELATED TO DISEASES OF BILIARY TRACT, LIVER AND PANCREAS: 16					
(*Cancer Cases: 7 †Emergencies: 3 M.E.: Medical Examiner's Cases: 1)					
755980	61	Cirrhosis; gastric ulcers	Gastrostomy; insertion balloon	Acute renal failure	Yes
894259	22	Cirrhosis; portal hypertension	Portacaval shunt	Hepatic failure	No
969461	83	*Ca. gallbladder, metastases	Cholecholejojunostomy	Carcinomatosis	Yes
894391	38	*Ca. pancreas	Liver biopsy	Hepatic coma	Yes
966103	42	Renal failure	Kidney implant	Septicemia	Yes
581655	80	Pancreatitis; acute suppurative cholangitis	†Cholecystostomy, chole- dochoostomy	Hemorrhage	Yes
976685	58	*Ca. pancreas, metastases	Cholecystojejunostomy	Bleeding—puncture site—liver	Yes
977557	65	*Ca. gallbladder, metastases	Biopsy—peritoneal implant	Subphrenic abscess	Yes
979240	44	Cholecholithiasis	†1. Cholecholethotomy, cholecystectomy †2. Subtotal gastrectomy	Stress ulcers	Yes
973744	70	Portal hypertension; bleeding esophageal varices	Portacaval shunt	Myocardial infarction	No
377178	42	Cholecholithiasis, pancreatitis, cholelithiasis	1. Cholecystectomy, cholecholethotomy 2. Gastrostomy, jejunostomy, feeding	Renal failure	No

991097	58	*Ca. pancreas	Gastrojejunostomy, choledochostomy, cholecystostomy	Ca. pancreas	Yes
926853	19	Cirrhosis; esophageal varices	Portacaval shunt	Hemorrhage	Yes (M.E.)
992755	37	*Ca. pancreas	Liver biopsy	Carcinomatosis	Yes
996961	61	Pancreatic and biliary cutaneous fistula	Feeding jejunostomy	Myocardial infarction	No
997543	60	*Ca. pancreas, metastases	Liver biopsy	Carcinomatosis	No

DEATHS RELATED TO CARDIOVASCULAR AND VASCULAR DISEASES: 9

(*Cancer Cases: 0		†Emergencies: 4		M.E.: Medical Examiner's Cases: 1	
422983	85	Fracture shaft—femur	†1. Kuntschner nailing †2. Detortion, cecal volvulus †3. Subtotal gastrectomy †4. Cholecystostomy	Coronary occlusion	Yes (M.E.)
891363	65	Iliac artery occlusion	1. Iliac femoral bypass 2. Aortico—femoral bypass	Thrombosis of aorta	Yes
917106	50	Rheumatic heart disease	Aortic, mitral valvuloplasty	Cardiopulmonary failure	Yes
738191	46	Rheumatic heart disease	Mitral valvuloplasty	Myocardial failure	Yes
303503	80	Abdominal aortic aneurysm	Resection, aneurysm	Renal failure	Yes
821869	58	Gangrene, toes	1. Femoral-popliteal vein graft 2. Amputation, leg	Coronary arteriosclerosis	Yes
383803	59	Abdominal aortic aneurysm	Exploratory laparotomy	Renal failure	Yes
301178	76	Ruptured abdominal aortic aneurysm	Resection, aneurysm	Ruptured aneurysm	Yes
818873	41	Peripheral vascular insufficiency	Femoral-popliteal vein bypass	Pulmonary embolus	Yes

DEATHS RELATED TO DISEASES OF ESOPHAGUS AND LUNGS: 3

(*Cancer Cases: 3		†Emergencies: 0		M.E.: Medical Examiner's Cases: 0)	
76827	79	*Ca. lung	Exploratory laparotomy	Ca. lung	Yes
985343	65	*Ca. esophagus	Thoracotomy, gastrostomy	Bronchopneumonia	No
820577	72	*Ca. esophagus	Gastrostomy	Ca. esophagus	No

TABLE 1: OPERATIVE DEATHS, GENERAL SURGERY (PAVILION)—Continued

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation</i>	<i>Cause of Death</i>	<i>Autopsy</i>
DEATHS RELATED TO MISCELLANEOUS CONDITIONS: 6					
(*Cancer Cases: 1 †Emergencies: 3 M.E.: Medical Examiner's Cases: 1)					
975209	72	*Fracture, left hip; bilateral ca., breast	†1. Closed reduction †2. Rt. radical mastectomy	Mycardial infarction	Yes (M.E.)
909329	49	Bilateral polycystic kidneys	1. Kidney transplant (rt.) 2. Kidney transplant (lt.) †3. Removal, lt. transplant	Renal failure; septicemia	Yes
957086	18	Chronic glomerulonephritis	Homotransplant, kidney	Anuria; septicemia	Yes
991014	10	Chronic glomerulonephritis	Homotransplant, kidney	Renal failure	Yes
950826	21	Chronic glomerulonephritis	Kidney biopsy	Renal failure	Yes
553946	19	Chronic glomerulonephritis	1. Peritoneal button 2. Homotransplant, kidney	Anuria; septicema	Yes

TABLE II

OPERATIVE DEATHS, SURGICAL SPECIALTIES (PAVILION)

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation</i>	<i>Cause of Death</i>	<i>Autopsy</i>
THORACIC SURGERY: 4					
(*Cancer Cases: 1 †Emergencies: 0 M.E.: Medical Examiner's Cases: 1)					
255937	51	R.I.D.; aortic stenosis, insufficiency	MacGovern valve	Heart failure	Yes (M.E.)
992111	58	*Ca. right lung	Right pneumonectomy	Pulmonary artery hemorrhage	Yes
991822	43	R.I.D.; Mitral, aortic stenosis	Open mitral valvulotomy	Fibrotic to carotid artery	Yes
630498	44	R.I.D.; aortic stenosis, insufficiency	Aortic valvuloplasty	Mycardial infarction	Yes
PEDIATRIC SURGERY: 9					
(*Cancer Cases: 0 †Emergencies: 0 M.E.: Medical Examiner's Cases: 2)					
968300	6 weeks	Volvulus	Resection small bowel	Cardiac arrest	Yes

969604	6 months	Intussusception	Reduction—intussusception	Cardiac arrest	Yes
977690	6 weeks	Central nervous system damage	Gastrostomy	Central nervous system damage	Yes
931810	2	Cyanotic heart disease	Blalock procedure	Heart failure	Yes (M.E.)
971312	5	Congenital ileal stenosis; exudative enteropathy	1. Small bowel resection 2. Peritoneal dialysis	Acute renal failure	Yes
993199	3	Staphylococcal pneumonia	Right pneumonectomy	Acute mediastinal shift	Yes
989344	4 months	Congenital heart disease	Pericardiectomy	Cardiac arrest	Yes
951539	6	Intraventricular septal defect	Repair septal defect	Subdural hemorrhage	Yes
988153	6	Cystic hygroma	Excision cystic hygroma	Cardiac arrest	Yes (M.E.)
(*Cancer Cases: 0 †Emergencies: 0			FRACTURE: 8		
			M.E.: Medical Examiner's Cases: 6)		
970068	86	Subtrochanteric fracture	Open reduction	Myocardial infarction	No (M.E.)
982967	78	Intertrochanteric fracture	Jewett nailing	Cerebrovascular accident	Yes
986476	84	Intertrochanteric fracture	Jewett nailing	Congestive heart failure	No (M.E.)
993404	23	Intertrochanteric fracture	Jewett nailing	Myocardial infarction	No
992243	89	Intertrochanteric fracture	Jewett nailing	Pulmonary embolism	Yes (M.E.)
990222	90	Intertrochanteric fracture	Open reduction	Myocardial infarction	Yes (M.E.)
993797	78	Intertrochanteric fracture	Open reduction	Aspiration pneumonia	No (M.E.)
996394	77	Intertrochanteric fracture	Jewett nailing	Septicemia	Yes (M.E.)
(*Cancer Cases: 1 †Emergencies: 0			NEUROSURGERY: 11		
			M.E.: Medical Examiner's Cases: 1)		
252877	57	*Glioblastoma	Craniotomy	Brain tumor	Yes
973207	12	Intracerebral hematoma	Tracheostomy; burr holes	Intracerebral hematoma	Yes

TABLE II: OPERATIVE DEATHS, SURGICAL SPECIALTIES (PAVILION)—Continued

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation</i>	<i>Cause of Death</i>	<i>Autopsy</i>
966937	4 months	Hydrocephalus. Myelomeningocele	1. Revision, ventricular atrial shunt 2. Removal, shunt	Hydrocephalus	Yes
985388	2 day	Encephalocoele with anencephaly	Ventriculogram	Respiratory arrest	Yes
985365	43	Spinal cord compression; subarachnoid hemorrhage	1. Thoracic laminectomy 2. Posterior fossa exploration	Respiratory arrest	Yes
918639	6 years	Posterior fossa ependymoma	Ventriculo-pleural shunt	Brain stem compression	No
989347	2 months	Hydrocephalus	Third ventriculostomy	Respiratory arrest	Yes
865771	38	Syringomyelia	1. Ventriculo-peritoneal shunt 2. Gastrostomy	Respiratory arrest	Yes
844204	64	Sub-dural hematoma	Drainage subdural hematoma	Hemorrhage	Yes (M.E.)
997916	66	Carotid occlusion	Carotid endarterectomy	Intracerebral hemorrhage	Yes
928445	22	Hypothalamic tumor	Biopsy, hypothalamic tumor	Pulmonary embolus	Yes
OTOLARYNGOLOGY: 1					
(*Cancer Cases: 1		†Emergencies: 0		M.E.: Medical Examiner's Cases: 0)	
901724	49	*Ca. larynx, metastases	Gastrostomy	Carotid artery hemorrhage	No
PLASTIC SURGERY: 3					
(*Cancer Cases: 1		†Emergencies: 0		M.E.: Medical Examiner's Cases: 2)	
464956	65	Full thickness burns	1. Debridement 2. Tracheostomy	Renal failure; sepsis	Yes (M.E.)
943000	65	*Ca. right mandible; corneal ulcer	1. Right mandibulectomy and radical neck dissection 2. Corneal graft	Pulmonary embolus	No
996552	5	Third degree burns	Debridement, eschars	Septicemia	Yes (M.E.)

UROLOGY: 5

(*Cancer Cases: 4	†Emergencies: 0	M.E.: Medical Examiner's Cases: 0)		
952692	83	*Ca. prostate gland	Transurethral resection	Ca. prostate
968348	54	*Ca. bladder; staghorn calculus	1. Transurethral resection tumor	Sepsis
			2. Radical cystectomy	
972518	73	*Ca. left kidney	Lt. radical nephrectomy	Cardiac arrhythmia
992509	6 weeks	Hypoplasia, abdominal muscles; bladder neck obstruction, vesico-ureteral reflux. Pyelonephritis	Bilateral cutaneous loop ureterostomies	Septicemia; pyelonephritis, suppurative
999103	14	*Malignant lymphoma	Bilateral nephrostomies	Lymphosarcoma; septicemia

TABLE III

NONOPERATIVE DEATHS (PAVILION)

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Cause of Death</i>	<i>Autopsy</i>
GENERAL SURGERY: 4				
M.E.: Medical Examiner's Cases: 0)				
(*Cancer Cases: 2	†Emergencies: 1			
957427	78	†Bronchopneumonia; septicemia	Septicemia	Yes
972238	80	*Ca. stomach	Carcinomatosis	No
992654	61	Obstructed duodenal ulcer	Acute myocardial infarction	No
956188	40	*Ca. breast; metastases	Carcinomatosis	Yes
NEUROSURGERY: 2				
M.E.: Medical Examiner's Cases: 0)				
(*Cancer Cases: 1	†Emergencies: 0			
827478	64	*Ca. breast, metastases	Metastatic carcinoma	Yes
966576	9 months	Arnold-Chiari syndrome	Respiratory arrest	Yes
UROLOGY: 3				
M.E.: Medical Examiner's Cases: 0)				
(*Cancer Cases: 3	†Emergencies: 0			
896088	56	*Ca. urinary bladder, metastases	Carcinomatosis	Yes
964745	61	*Ca. bladder, metastases	Carcinomatosis	No
201076	59	*Ca. prostate	Metabolic acidosis; uremia	Yes

TOTAL PRIVATE DEATHS—1964

Operative deaths.....	81	Autopsies.....	81 (including 9 Medical Examiner's cases).....	71.2%
Nonoperative deaths.....	33	No autopsies.....	33 (including 0 Medical Examiner's cases).....	28.8%
Total.....	114	Total.....	114	
Cancer cases in which cancer caused death.....	60	Deaths following operative emergencies.....	2	
Cancer cases with other causes of death.....	5	Deaths following nonoperative emergencies.....	0	
Total Cancer Cases.....	65	Total Deaths Following Emergencies.....	2	

TABLE IV
OPERATIVE DEATHS, GENERAL SURGERY (PRIVATE)

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation</i>	<i>Cause of Death</i>	<i>Autopsy</i>
DEATHS RELATED TO GASTROINTESTINAL DISEASES: 19					
(*Cancer Cases: 13		M.E.: Medical Examiner's Cases: 0)			
969802	68	†Emergencies: 0 *Mesenteric thrombosis	Resection ileum and colon	Cardiac arrest	Yes
801344	69	Acute diverticulitis	Drainage, pelvic abscess; transverse colostomy	Cardiac arrest	Yes
954417	50	Regional enteritis	Closure, colostomy	Esophageal perforation; septicemia	Yes
778232	64	*Ca. colon; metastases	Ileo-transverse colostomy	Carcinomatosis	Yes
973636	89	*Ca. rectum	Sigmoid colostomy	Carcinomatosis	No
974053	86	Bleeding stomal ulcer	Anti-colic gastrojejunostomy	Myocardial infarction	Yes
669819	72	*Ca. bladder	Gastroenterostomy	Renal failure	Yes
892141	84	*Ca. stomach, metastases	Biopsy of tumor	Carcinomatosis	Yes
847711	71	Duodenal ulcer	Partial gastrectomy	Hepatic failure; septicemia	Yes
416571	74	Duodenal ulcer	1. Gastroenterostomy, vagotomy 2. Partial gastrectomy	Bleeding gastric ulcer; duodenal stump leakage	Yes
953169	87	*Ca. colon	Left colectomy	Uremia	Yes

818046	63	*Diabetes mellitus; gangrene foot; ca. sigmoid	1. Resection, toe 2. Sigmoid resection	Septicæmia	Yes
989187	69	*Ca. stomach, resected; ca. head of pancreas, metastatic	1. Percutaneous transhepatic cholangiogram 2. Tumor biopsy	Hepato-renal failure	Yes
80694	84	Fracture, femoral neck; small bowel obstruction	1. Open reduction, pinning 2. Lysis adhesions; ileostomy	Septicæmia	No
737061	71	*Intra-abdominal metastatic ca.	Omental biopsy	Carcinomatosis	No
932725	66	*Ca. colon	Transverse colostomy	Carcinomatosis	Yes
900885	71	*Ca. rectum, metastatic	Transverse colostomy	Heart failure	Yes
985064	59	*Ca. cecum; intestinal obstruction	Whitzel jejunostomy	Carcinomatosis	Yes
996477	51	*Ca. hepatic flexure	Resection colon	Carcinomatosis	No
DEATHS RELATED TO BILIARY TRACT, PANCREAS AND LIVER: 7					
(*Cancer Cases; 3		†Emergencies; 0 M.F.; Medical Examiner's Cases; 0)			
965914	85	Cholelithiasis; choledocholithiasis	Cholecystectomy and common duct exploration	Cardiac failure	Yes
931461	72	*Ca. bile duct; jaundice	Cholecystostomy	Hepatic failure	Yes
979154	39	Cholelithiasis; Lacunæ's cirrhosis	Cholecystectomy; liver biopsy	Hepatic insufficiency; hemorrhage	Yes
977804	68	*Ca. pancreas, metastases	Cholecystojejunostomy	Carcinomatosis	Yes
982032	61	*Ca. pancreas	Radical pancreaticoduodenectomy	Septicæmia	Yes
682289	63	Bleeding esophageal varices; cirrhosis	Liver biopsy and portogram	Respiratory failure	Yes
962852	73	Cirrhosis liver; hepatic encephalopathy	Exploratory laparotomy	Hepatic coma	No
DEATHS RELATED TO CARDIOVASCULAR AND VASCULAR DISEASE; 4					
(*Cancer Cases; 0		†Emergencies; 0 M.F.; Medical Examiner's Cases; 1)			
970962	15 day	Coarctation of aorta	Mobilization—great vessels	Cardiac arrest	Yes (M.F.)
699705	76	Ruptured abdominal aortic aneurysm	Resection, aneurysm	Retropertitoneal hematoma	Yes
998206	56	Occlusion—aorta, superficial femoral artery	Graft, abdominal aorta to iliac arteries	Cardiac arrest	Yes

TABLE IV: OPERATIVE DEATHS, GENERAL SURGERY (PRIVATE)—Continued

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation</i>	<i>Cause of Death</i>	<i>Autopsy</i>
747976	75	Dissecting aortic aneurysm; homograft	1. Abdominal aortic graft 2. Bifurcation bypass graft	Cardiac arrest	Yes
DEATHS RELATED TO ESOPHAGUS AND LUNGS: 3					
(*Cancer Cases: 3 †Emergencies: 0 M.E.: Medical Examiner's Cases: 0)					
735219	64	*Ca. right lung	Right pneumonectomy	Anoxia	No
551236	62	*Ca. lung	Biopsy of rib	Carcinomatosis	Yes
990817	63	*Ca. lung, metastases	Biopsy of tumor	Carcinomatosis	Yes
DEATHS RELATED TO MISCELLANEOUS CONDITIONS: 7					
(*Cancer Cases: 6 †Emergencies: 1 M.E.: Medical Examiner's Cases: 0)					
914246	64	*Rhabdomyosarcoma	Pancreaticoduodenectomy	Uremia; cardiac arrest	Yes
844855	61	*Ca. breast; colon obstruction, metastatic	Caecostomy	Ca. breast	Yes
986029	44	*Ca. ovary; metastases	Biopsy peritoneum	Myocardial infarction	No
983553	73	*Diabetes mellitus; gangrene rt. foot; Ca. prostate	1. Amputation rt. leg †2. Tracheostomy 3. Supra pubic cystostomy	Myocardial infarction	Yes
530003	46	*Fibromyosarcoma uterus	Transverse colostomy	Fibromyosarcoma uterus	Yes
807816	89	Lumbar dorsal ulcer, post radiation	Debridement, skin ulcer	Cerebrovascular occlusion	Yes
993308	85	*Ca. ovaries, metastases	Biopsy of tumor	Carcinomatosis	No

TABLE V

OPERATIVE DEATHS, SURGICAL SPECIALTIES (PRIVATE)

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operations</i>	<i>Cause of Death</i>	<i>Autopsy</i>
THORACIC SURGERY: 6					
(*Cancer Cases: 1 †Emergencies: 0 M.E.: Medical Examiner's Cases: 1)					
881777	49	R. II. D.; aortic insufficiency and stenosis	Replacement aortic valve	Myocardial infarction	Yes (M.E.)

988889	60	ASCD; complete heart block; Stokes-Adams syndrome	Insertion intracardiac pacemaker	Ventricular fibrillation	Yes
990032	62	Dissecting aneurysm, aorta	Transthoracic repair	Cardiac arrest	Yes
990813	65	*Ca. lung; ASCD	Right upper lobectomy	Pulmonary embolus	Yes
993324	59	Hilar adenopathy	Exploratory thoracotomy	Myocardial infarction	No
650849	69	Recurrent bronchial adenoma	Resection adenoma	Respiratory insufficiency	No
PEDIATRIC SURGERY: 3					
(*Cancer Cases: 0		†Emergencies: 0	M.E.: Medical Examiner's Cases: 0)		
979442	3 mo.	Transposition—great vessels	Repositioning right pulmonary vein, left to right atrium	Heart failure	Yes
997903	13 days	Hirschsprung's disease; ileal volvulus	1. Resection ileal segment 2. Ileostomy	Gangrene, small intestine	Yes
993984	2 months	Transposition—great vessels	Creation atrial fenestration	Metabolic acidosis	Yes
FRACTURE: 3					
(*Cancer Cases: 0		†Emergencies: 0	M.E.: Medical Examiner's Cases: 3)		Yes (M.E.)
965997	86	Intertrochanteric fracture	1. Internal fixation, hip	Pneumonia	Yes (M.E.)
226285	77	Intertrochanteric fracture	Jewett nailing	Bronchopneumonia	Yes (M.E.)
997896	80	Fracture, shaft femur	Kuntschner rod fixation	Pulmonary embolus	Yes (M.E.)
NEUROSURGERY: 15					
(*Cancer Cases: 6		†Emergencies: 0	M.E.: Medical Examiner's Cases: 0)		No
964669	52	Aneurysm, intra-cerebral	Aneurysmorrhaphy	Subarachnoid hemorrhage	No
794540	45	*Metastatic brain tumor	Removal tumor	Cerebral metastases	No
659566	56	*Acoustic neurinoma	Extirpation neurinoma	Brain stem edema	Yes
965786	52	Aneurysm, intracerebral	Aneurysmorrhaphy	Cerebral edema	Yes
958166	60	*Metastatic ca. breast; pathological fracture, hip	1. Total hypophysectomy 2. Hip nailing	Metastatic ca. breast	Yes
968208	30	*Acoustic neurinoma	Excision neurinoma	Brain stem infarction	No
967992	60	Intracerebral hemorrhage	Evacuation, hematoma	Hemorrhage	Yes

TABLE V: OPERATIVE DEATHS, SURGICAL SPECIALTIES (PRIVATE)—Continued

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operations</i>	<i>Cause of Death</i>	<i>Autopsy</i>
972681	32	*Acoustic neurinoma	Excision neurinoma	Brain stem edema; hemorrhage	No
974651	72	Intracranial hemorrhage	Craniotomy; evacuation, hematoma	Septicemia	No
969884	57	*Metastatic breast ca.	Hypophysectomy	Metastatic breast ca.	Yes
720636	47	Dermatomyositis; intracranial hypertension	1. Subtemporal decompression 2. Ventriculo-plcural shunt	Cardiac arrest	Yes
840666	58	Intracranial hematoma	Evacuation—hematoma	Intracranial hematoma	Yes
958387	23	Diabetes mellitus; retinopathy; spinal fluid fistula	1. Muscle pack to sella turcica 2. Craniotomy; closure of fistula	Pulmonary embolus	Yes
683433	67	Tic doloreux	1. Posterior fossa root section 2. Evacuation, hematoma	Cerebellar hematoma	No
983139	58	Diabetes mellitus; diabetic retinopathy	Removal Yttrium rods with muscle pack to sella turcica	Cerebrovascular accident	Yes
PLASTIC SURGERY: 3					
(*Cancer Cases: 0		†Emergencies: 0	M.E.: Medical Examiner's Cases: 2)		
855144	4	Cleft palate	Palatal pushback	Cardiac arrest	Yes (M.E.)
974694	48	Full thickness burns	Debridement, eschar	Renal failure	Yes (M.E.)
986347	64	Cutis laxa, face	Rhytidectomy; blepharoplasty	Cardiac arrest	No
UROLOGY: 6					
(*Cancer Cases: 4		†Emergencies: 1	M.E.: Medical Examiner's Cases: 0)		
596252	63	*Ca. prostate gland	1. Radical retropubic prostatectomy 2. Urectrostomy, bilateral 3. Insertion, Berry button	Renal failure; Septicemia	Yes
928833	63	*Ca. rt. kidney; ca. urinary bladder	1. Retrograde pyelogram 2. Exploration, kidney	Carcinomatosis	Yes

977846	62	Retroperitoneal mesothelioma. Chole-cystocolic fistula, subhepatic abscess	1. Transurethral resection, bladder 2. Drainage, cholecystocolic fistula, subhepatic abscess; cecostomy	Generalized peritonitis	Yes
986161	50	*Ca. bladder	1. Transurethral resection 2. Radical cystectomy, ileal conduit	Uremia	Yes
146947	70	Pyelonephritis	Left nephrectomy	Septicemia	No
989671	74	*Ca. urinary bladder; hydronephrosis; hydroureter	1. Left cutaneous ureterostomy 2. Right cutaneous ureterostomy	Myocardial infarction	No

TABLE VI

NONOPERATIVE DEATHS, PRIVATE

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Cause of Death</i>	<i>Autopsy</i>
GENERAL SURGERY: 23				
(*Cancer Cases: 19		†Emergencies: 0	M.E.: Medical Examiner's Cases: 0)	
762290	75	*Ca. rectum	Ca. colon	Yes
983180	70	*Ca. lung	Myocardial infarction	Yes
632491	56	*Ca. breast, metastases	Anoxia with cardiac failure	Yes
953096	60	*Ca. breast	Ca. breast, metastases	Yes
945517	70	*Alveolar cell ca. lung	Bilateral pleural effusion	No
940420	78	*Ca. stomach, metastases	Metastatic ca.—liver	Yes
923628	48	*Recurrent ca. rectum, metastatic	Carcinoma	No
941441	48	*Ca. rectosigmoid, metastatic	Carcinomatosis	Yes
939973	74	*Metastatic gastric ca.	Carcinomatosis	Yes
902273	57	*Ca. breast, metastases	Carcinoma	No
928858	69	*Ca. pancreas, metastases	Carcinoma	Yes
971044	63	*Ca. colon, metastases	Metastatic carcinoma	Yes
982411	55	*Ca. lung, metastases	Myocardial infarction	No
985292	53	*Ca. breast	Carcinomatosis	No
986313	67	Ruptured abdominal aortic aneurysm	Ruptured aneurysm	Yes

TABLE VI: NONOPERATIVE DEATHS (PRIVATE).—Continued

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Cause of Death</i>	<i>Autopsy</i>
979428	48	*Ca. gall bladder, metastases	Electrolyte imbalance	No
858298	69	*Ca. colon, metastases	Renal failure; cerebral insufficiency	Yes
951672	60	Laennec's cirrhosis, liver	Hepatico-renal failure	Yes
824289	63	Acute myocardial infarction	Acute myocardial infarction	Yes
731539	70	Rheumatic heart disease	Acute myocardial infarction	Yes
981286	57	*Ca. pancreas, metastases	Carcinomatosis	No
981220	54	*Ca. colon, metastases	Carcinomatosis	No
971020	60	*Ca. breast, metastases	Carcinomatosis	No
THORACIC SURGERY: 2				
(*Cancer Cases: 1		†Emergencies: 0	M.E.: Medical Examiner's Cases: 0)	
615264	80	Pulmonary emphysema; cor pulmonale	Pulmonary insufficiency	Yes
994571	49	*Ca. kidney, metastases	Pulmonary insufficiency	Yes
FRACTURE: 2				
(*Cancer Cases: 0		†Emergencies: 0	M.E.: Medical Examiner's Cases: 2)	
777474	55	Compression fracture, 2nd lumbar	Pneumonia; pneumonococcal septicemia	Yes (M.E.)
986334	71	Fracture tibia, fibula, pubic ramus; thrombophlebitis	Pulmonary emboli	Yes (M.E.)
NEUROSURGERY: 4				
(*Cancer Cases: 3		†Emergencies: 0	M.E.: Medical Examiner's Cases: 0)	
975618	43	*Ca. breast, metastases	Metastatic ca.—breast; liver failure	No
270330	58	*Ca. lung, metastases	Brain metastasis	No
977465	32	Intracranial aneurysm	Subarachnoid hemorrhage	No
980101	67	*Metastatic breast cancer	Liver metastasis	Yes

UROLOGY: 7

(*Cancer Cases: 6		†Emergencies: 0	M.E.: Medical Examiner's Cases: 0)		
198103	57	*Ca. prostate; bilateral ureteral obstruction; uremia	Uremia		Yes
655153	65	Ruptured abdominal aorta	Ruptured aorta		Yes
895988	57	*Ca. prostate gland, metastases	Prostatic carcinoma		Yes
818100	85	*Ca. urinary bladder	Septicemia and pneumonia		No
948606	52	*Ca. urinary bladder	Carcinomatosis		Yes
72900	77	*Adenocarcinoma, prostate gland	Carcinomatosis; pneumonitis		No
864151	63	*Ca. prostate gland	Septicemia; uremia; carcinomatosis		Yes

TOTAL DEATHS ON SEMIPRIVATE TEACHING SERVICE—1964

Operative deaths.....	22	Autopsies.....	23 (including 2 Medical Examiner's cases).....	95.8%
Nonoperative deaths.....	2	No autopsies.....	1 (including 0 Medical Examiner's cases)	
Total.....	24	Total.....	24	
Cancer cases in which cancer caused death.....		Deaths following operative emergencies.....	6	
Cancer cases with other causes of death.....		Deaths following nonoperative emergencies.....	0	
Total Cancer Cases.....		Total Deaths Following Emergencies.....	6	

TABLE VII

OPERATIVE DEATHS, GENERAL SURGERY (SEMIPRIVATE TEACHING SERVICE)

Number	Age	Primary Diagnosis	Operation	Cause of Death	Autopsy
(*Cancer Cases: 5		†Emergencies: 6	M.E.: Medical Examiner's Cases: 2)		
341856	52	Aortic insufficiency; thrombocytosis	MacGovern valve	Cerebrovascular accident; renal failure	Yes
666823	47	Osteoma frontal sinus; thrombophlebitis	1. Resection osteoma	Pulmonary embolus	Yes
710689	40	R. H. D.; mitral stenosis	2. Pulmonary embolotomy	Ventricular fibrillation	Yes
975690	58	Bullous emphysema	Open mitral valvulotomy	Renal failure	Yes
979459	54	*Ca. breast, metastases	Resection, emphysematous blebs	Metastatic cancer	Yes
			Subtotal gastric resection		

TABLE VII: OPERATIVE DEATHS, GENERAL SURGERY (SEMIPRIVATE TEACHING SERVICE)—Continued

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Operation</i>	<i>Cause of Death</i>	<i>Autopsy</i>
979272	74	*Ca. gallbladder, metastases	Cholecystostomy	Carcinomatosis	Yes
978565	69	Thymoma mediastinum: ASCD	Resection, thymoma	Myocardial infarction	Yes
979649	57	Myxoma rt. atrium	1. Resection myxoma 2. Exploratory laparotomy	Cardiac failure	Yes
981384	49	Acute cholecystitis	Cholecystostomy	Cardiac arrest	Yes
986375	69	Abdominal aortic, iliac aneurysm	1. Aorto-iliac popliteal prosthesis 2. Mid-thigh amputation	Hepatic failure	Yes
977623	54	Aneurysm, hepatic artery	Ligation hepatic and gastro-duodenal arteries	Hepatic necrosis	Yes
658012	61	*Abdominal aortic aneurysm, ruptured	1. Excision, aneurysm; graft	Renal failure	Yes
949634	75	Thrombosis, superior mesenteric artery	Small bowel resection	Septicemia	Yes
990879	61	Sigmoid-diverticulitis	Sigmoid resection	Septicemia	Yes
998340	55	Abdominal aortic aneurysm, ruptured	Excision, graft	Hemorrhage	Yes
997188	63	*Ca. esophagus	Esophagogastrectomy	Pulmonary insufficiency	Yes
963388	51	Bleeding gastric ulcer	†Partial gastrectomy	Cerebrovascular accident	No
955831	45	R. H. D., mitral stenosis	Open mitral valvulotomy	Renal failure	Yes
966172	54	Aortic stenosis	Aortic valve replacement	Myocardial infarction	Yes
789460	35	R. H. D., aortic stenosis, insufficiency	McGovern valve	Ventricular fibrillation	Yes (M.E.)
746688	67	Ruptured abdominal aortic aneurysm	Resection. Prosthesis	Cardiac arrest	Yes (M.E.)
972632	70	*Ca. lung	Left pneumonectomy	Renal failure	Yes

TABLE VIII

NONOPERATIVE DEATHS, GENERAL SURGERY (SEMIPRIVATE TEACHING SERVICE)

<i>Number</i>	<i>Age</i>	<i>Primary Diagnosis</i>	<i>Cause of Death</i>	<i>Autopsy</i>
		(*Cancer Cases: 1 †Emergencies: 0 M.E.: Medical Examiner's Cases: 0)		
970434	41	Renal failure; post endarterectomy	Renal failure	Yes
984011	57	*Ca. pancreas; supraclavicular node biopsy	Hepatic and renal failure	Yes

